DOCUMENT RESUME

ED 238 779 SO 015 311

TITLE	Guide to Graduate Departments of Geography in the United States and Canada 1983-1984. With Theses and Dissertations Completed During 1982-1983.
INSTITUTION	Association of American Geographers, Washington, D.C.
REPORT NO	ISBN-0-89291-171-9
PUB DATE	83
NOTE	352p.; For a related document, see ED 223 505.
AVAILABLE FROM	Association of American Geographers, 1710 16th St., N.W., Washington, DC 20009 (AAG members and prospective graduate students, $5.00; nonmembers, $9.00).
PUB TYPE	Reference Materials - Directories/Catalogs (132)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Admission Criteria; *Degree Requirements; Doctoral Dissertations; *Doctoral Programs; Educational Facilities; Enrollment; Financial Support; *Geography Instruction; Graduate School Faculty; *Graduate Study; Higher Education; *Masters Programs; Masters Theses; Research Opportunities; Universities
IDENTIFIERS	Canada; United States

ABSTRACT

Designed for college and university departments and students, this guide provides a comprehensive listing of current graduate programs in geography in the United States and Canada. Following an explanation of the guide format, 146 of the total 169 graduate departments of geography are listed alphabetically under sections for each country. Information is provided on degrees offered, number of degrees granted, number of students currently enrolled, programs and research facilities, admission requirements, and financial aid. Names are given for department heads, contact person, and staff. Titles of recently completed doctoral dissertations and masters' theses are provided. Supplemental material includes a staff directory, geographical index, and a list of graduate departments not covered in the guide. (LP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☑ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

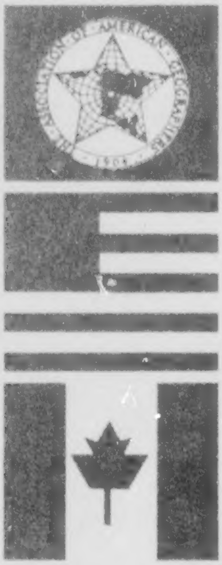
ED238779

Guide to Graduate Departments of Geography in the United States and Canada 1983-1984

"PERMISSION TO REPRODUCE THIS MATERIAL IN **MICROFICHE ONLY** HAS BEEN GRANTED BY

Salvatore
Natoli

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."



SO 015 311

With Theses and Dissertations Completed During 1982-1983

Copies of the *Guide* may be purchased at the following prices:

Institutions—$9.00 per copy
Nonmembers of AAG—$9.00 per copy
AAG Members—$5.00 per copy
Prospective Graduate Students—$5.00 per copy

Participating departments receive three free copies of the *Guide*.

© 1983 Association of American Geographers

1710 16th Street, N.W.
Washington, D.C. 20009

Library of Congress Catalog Card Number 68-59269

ISSN 0072-8497

ISBN 0-89291-171-9

PREFACE

This is the sixteenth edition of the *Guide to Graduate Departments of Geography in the United States and Canada,* designed to provide college and university departments and students with a current reference for graduate training in geography. It provides a comprehensive listing of information about requirements, course offerings, financial aid and personnel for colleges and universities.

There are 72 institutions in the U.S. and Canada that offer a Ph.D. in geography; 68 of these are listed in the 1983-1984 *Guide*. Of the 97 institutions that award the Master's degree, 78 are included here. Out of a total of 169 graduate departments of geography in the U.S. and Canada, 146 are listed in the current edition of the *Guide*.

Recently completed dissertations and theses are listed under each graduate school program. This listing provides a permanent record of graduate research in geography. An explanation of the format appears on the page facing the first entry.

Participating department chairpersons and secretaries have cooperated admirably with the production editor, Teresa Mulloy, who is responsible for organizing and copyediting all material. We would like to thank the many individuals who have made this *Guide* possible.

We hope that the *Guide* will continue to be a helpful tool for students and for faculty members assisting students who are selecting graduate programs of geography.

Patricia J. McWethy
Executive Director
Association of American Geographers

TABLE OF CONTENTS

UNITED STATES

**Institutions that award doctoral degrees*

University of Akron ... 1
University of Alabama ... 3
Appalachian State University ... 5
*Arizona State University ... 6
*University of Arizona ... 8
University of Arkansas, Fayetteville ... 10
Ball State University ... 11
*Boston University ... 13
Bowling Green State University ... 15
Brigham Young University (theses only) ... 17
California State University, Chico ... 17
California State University, Fresno ... 19
California State University, Fullerton ... 21
California State University, Hayward ... 22
California State University, Los Angeles ... 24
California State University, Northridge ... 26
*University of California, Berkeley ... 27
*University of California, Davis ... 30
*University of California, Los Angeles ... 33
*University of California, Riverside ... 36
*University of California, Santa Barbara ... 37
Chicago State University ... 40
*University of Chicago ... 41
*University of Cincinnati ... 44
*Clark University ... 46
*University of Colorado ... 49
*Columbia University ... 52
*University of Delaware ... 54
*University of Denver ... 56
East Carolina University ... 57
East Tennessee State University ... 59
Eastern Kentucky University ... 60
Eastern Michigan University ... 61
Florida Atlantic University ... 64
Florida State University ... 65
*University of Florida ... 67
George Mason University ... 70
George Washington University ... 71
Georgia State University ... 73
*University of Georgia ... 74

*University of Hawaii 77
University of Idaho 81
Illinois State University 83
*University of Illinois 85
University of Illinois at Chicago 87
*Indiana State University 89
*Indiana University 91
Indiana University of Pennsylvania 94
*The University of Iowa 95
*The Johns Hopkins University 97
Kansas State University 99
*University of Kansas 101
*Kent State University 104
*University of Kentucky 106
*Louisiana State University 109
Mankato State University 112
*University of Maryland 113
University of Massachusetts 119
Memphis State University 120
Miami University 122
University of Miami 124
*Michigan State University 126
*University of Minnesota 128
University of Missouri-Columbia 131
University of Montana 133
Murray State University 135
*University of Nebraska-Lincoln 137
University of Nebraska at Omaha 139
University of Nevada Reno 141
University of New Mexico 143
*University of North Carolina, Chapel Hill 144
University of North Carolina at Charlotte 147
University of North Dakota 149
North Texas State University 151
Northeast LouisianaUniversity 152
Northeastern Illinois University 154
*University of Northern Colorado 155
Northern Illinois University 157
University of Northern Iowa 159
Northern Michigan University 160
*Northwestern University 162
*The Ohio State University 163
Ohio University 166
*Oklahoma State University 168
*University of Oklahoma 170
*Oregon State University 172
*University of Oregon 174

*The Pennsylvania State University ... 176
*University of Pennsylvania ... 179
Portland State University ... 182
*Rutgers University ... 184
San Diego State University ... 187
San Francisco State University ... 189
San José State University ... 190
Shippensburg University ... 192
University of South Carolina ... 195
South Dakota State University ... 198
*Southern Illinois University at Carbondale ... 199
Southern Illinois University-Edwardsville ... 202
University of Southern Mississippi ... 204
Southwest Missouri State University ... 206
Southwest Texas State University ... 207
University of Southwestern Louisiana ... 209
State University of New York at Albany ... 210
State University of New York at Binghamton ... 212
*State University of New York at Buffalo ... 215
*Syracuse University ... 218
Temple University ... 222
*University of Tennessee ... 224
*Texas A&M University ... 226
*The University of Texas at Austin ... 228
University of Toledo ... 230
Towson State University ... 232
*University of Utah ... 234
University of Vermont ... 237
*University of Washington ... 238
Wayne State University ... 241
West Virginia University ... 243
Western Illinois University ... 245
Western Kentucky University ... 248
Western Michigan University ... 250
Western Washington University ... 251
*University of Wisconsin ... 253
*University of Wisconsin-Milwaukee ... 256
University of Wyoming ... 258

CANADA

*University of Alberta ... 261
*University of British Columbia ... 264
*University of Calgary ... 267
*Carleton University ... 269

University of Guelph 273
*The University of Manitoba 275
*McGill University 277
*McMaster University 280
Memorial University of Newfoundland 283
*University of Ottawa 285
*Queen's University 287
University of Regina 290
*University of Saskatchewan 291
Université de Sherbrooke 293
*Simon Fraser University 295
*University of Toronto 299
*University of Victoria 302
*University of Waterloo 305
*University of Western Ontario 308
Wilfrid Laurier University 310
University of Windsor 312
*York University 314
Staff Directory 319
Geographical Index 341

Explanation of departmental listings in this *Guide:*

UNIVERSITY

DEPARTMENT

DATES DEPARTMENT FOUNDED, GRADUATE PROGRAM FOUNDED (In some cases graduate program in geography may antedate founding of independent department.)

DEGREES OFFERED (Some degrees may be in cooperating departments or among cooperating institutions.)

DEGREES GRANTED 7/1/82-6/30/83 (The number of theses and dissertations listed at the end of an entry may not match these figures if the department did not submit all titles, or if some Master's degrees were awarded on a non-thesis option.)

GRADUATE STUDENTS IN RESIDENCE

GRADUATE STUDENTS NOT IN RESIDENCE

CHAIR

FOR CATALOG AND FURTHER INFORMATION (Departmental address and telephone number.)

PROGRAMS AND RESEARCH FACILITIES

ADMISSION REQUIREMENTS, ACADEMIC PLAN, AND FINANCIAL AID

STAFF (Including highest degree, year and granting institution, rank and specializations.)

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83 (Doctoral dissertations first, followed by Master's theses in alphabetical order by author. Asterisk (*) identifies papers available on interlibrary loan; "Mf," indicates papers available on microfilm, followed by name of depository; e.g.: *Hill, N. Dale.* "Mountain Toponymy in the Basin and Range Province," 1981.* Mf., University Microfilms.)

University of Akron

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1963 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 8

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 15

HEAD: Allen G. Noble

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Allen G. Noble, Chairman, Department of Geography, The University of Akron, Akron, Ohio 44325
Telephone (216) 375-7620

PROGRAMS AND RESEARCH FACILITIES: The Master of Arts in Geography degree is designed for those graduate students who wish to pursue a traditionally oriented master's program in geography. A thesis is required.

The Master of Science in Geography is structured to fill the needs of those graduate students who wish to pursue a program strongly oriented toward quantitative analysis. A thesis is not written, but at least 9 semester hours of advanced statistics courses must be completed successfully.

Facilities include, in addition to air-conditioned general classrooms and faculty offices, a completely modern cartographic drawing laboratory, with adjoining darkroom and major equipment rooms, an urban analysis laboratory, a physical geography laboratory, graduate student offices, and a selected map, air photo and remote sensing research collection. Major equipment includes Kelsh stereo plotter, digital plotter, electronic calculators, key punch machine, remote computer terminal, overhead map enlarger, field plotters, ERTS zoom transferscope, three dimensional Perspektomat, headliner and varityper, industrial camera, vacuum frame, and map scale changers. A laboratory for cartographic and spatial analysis operates as a part of the Department. Academic emphasis is upon cartography, planning, urban geography, environmental resource planning, and Asian geography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The academic plan requires four semesters. The plan consists of required technique courses in geography and electives in geography and related fields. Electives include traditional course work, seminars, advanced technique courses and research.

Graduate geography programs are open to qualified students with either an undergraduate major in geography or a major acceptable to the department. Students with inadequate background in geography will be expected to remedy these deficiencies. No foreign language is required for the degree.

Grants are available in the form of teaching and research assistantships.

The Department operates an urban planning internship program with local planning agencies. Interns are paid an amount equivalent to that of teaching assistants (plus compensation for fees) and they work as planners gaining experience as well as receiving academic credit for that experience. Loan facilities are also available.

The national offices of the Pioneer America Society are housed in the Department. Publications produced in the Department include *Ohio Geographers: Recent Research Themes.*

STAFF:

Frank J. Costa, Ph.D., Wisconsin-Madison, 1974, Associate Professor of Urban Studies and Geography—urban, regional and resource planning

Ashok K. Dutt, Ph.D., Patna (India), 1961, Professor of Geography and of Urban Studies—urban, regional and urban planning, South Asia, Southeast Asia

Margaret Geib, B.A., 1952, B.S., 1954, Kent State, Department Cartographer

Lathardus Goggins, Ph.D., Saint Johns, 1972, Ed.D., Akron, 1983, Associate Professor—Africa, recreation, Anglo-America, climatology

Vern R. Harnapp, Ph.D., Kansas, 1972, Associate Professor—physical, Latin America, remote sensing, educational techniques

Robert B. Kent, Ph.D., Syracuse, 1983, Assistant Professor—cartography, development planning, Latin America

Laurence J. C. Ma, Ph.D., Michigan, 1971, Professor—East Asia, urban, cultural

Charles B. Monroe, Ph.D., Pennsylvania State, 1974, Assistant Professor—location analysis, transportation, applied geography

John Mulhauser, J.D., Akron, 1976, Associate Professor—economic, Anglo-America, cartography, remote sensing

Thomas L. Nash, Ph.D., Kent State, 1973, Professor and Director of the Urban Planning Internship Program—planning, climatology, cartography

Allen G. Noble, Ph.D., Illinois, 1957, Professor, Head of the Department—South Asia, cultural, settlement landscape

Deborah J. Phillips, M.A., Georgia, 1977, Supervisor, Laboratory for Cartographic and Spatial Analysis—cartography

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Jatta, Famara L. "An Environmental Analysis of Residential Land Use in Norton, Ohio," 1983.

Khan, Mohammad T. "Spatial Distribution and Hierachy of Settlements in Kohat District, Pakistan," 1983.

Lazaroff, Mark B. "A Comparative Analysis of Two Geographic Techniques Used to Determine a Stream Buffer Zone," 1983.

Menzies, Rodger K. "Hurricane Surge Threat to Single-Family Detached Residences in Coastal Island Communities in Metropolitan Savannah, Georgia," 1983.

University of Alabama

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1903 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 9
NOT IN RESIDENCE: 9

CHAIR: Neal G. Lineback

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Jeffrey Richetto, P.O. Box 1982, University, Alabama 35486
Telephone (205) 348-5095

PROGRAMS AND RESEARCH FACILITIES: The graduate program in Geography is strongly committed to applied geography and to the fields of Regional and Urban Planning. Research and teaching focus on land use analysis, remote sensing, computer cartography, and energy and environmental issues. Recent publications include a state atlas, a computer based map abstract series, a land use-mineral rights ownership map series, and land suitability and land use activity surveys for various parts of the southeast.

The program is closely allied with various city and regional planning agencies in the state and many University of Alabama graduate students are employed by these agencies on a part-time basis or on internships. The Department is equipped for field work and laboratory studies. Facilities include a modern cartographic lab with map-o-graph and zoom transferscope, darkroom, U.S.G.S. map library, weather station, and aerial photo library. The Department is particularly well endowed with computer assets such as a HP 9845A micro-computer W/64 K bytes RAM, two cassette tape drives, internal thermal printer and CRT graphics system. This is linked to a TALOS 648 digitizer with 36" x 48" digitizing area and SMART option, and to a Houston Instruments DP-1-5 11" x 17" digital plotter. The Department has easy access to a UNIVAC 1100/61 time share computer system with a megaword of storage, to a Tektronix 4051 graphics station with digitizer, digital plotter, flexible disk storage, and to a ZETA 6000 series off-line 36" drum, four pen plotter.

Area studies remain a part of the program. University graduates, through their academic training, are well prepared for work in the Foreign Service, C.I.A., D.I.A., and other federal agencies.

The graduate program in Geography is designed to include a thesis or a non-thesis track. Under the thesis track the student has considerable latitude to design a program to fit specific needs. The non-thesis track requires a rather strict conformity to specified guidelines. All entering students must specify one of the two tracks during the first semester of academic work. Students selecting the non-thesis track may select one of the following concentrations: Urban Systems Analysis and Management, Natural Systems Analysis and Management, Cultural Systems Analysis and Management, or Foreign Area Analysis.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:

Semester System. The academic program requires the completion of at least 24 to 36 semester hours with at least 12 hours in courses numbered 500 or above. A thesis or non-thesis track may be chosen. The program consists of required technique ccurses in geography and electives in geography and related fields. The Certificate in Urban and Regional Planning, an option, includes required courses in political science (public administration) and economics.

The graduate geography program is open to qualified students with either an undergraduate major in geography or a major acceptable to the department. A combined score of at least 1000 on the aptitude portions of the GRE and an undergraduate B average are required for unconditional admission. Students may be admitted with less than 1000 GRE on a conditional basis dependent on their grades in geography.

Teaching and research assistantships starting at $4550 for the academic year are regularly granted to well-qualified students. Paid internships are also available with local and regional planning agencies or with the Geological Survey of Alabama. Out-of-state tuition is partially waived for departmental assistants.

STAFF:

H. Donald Hays, M.A., Michigan, Professor—microclimatology, land use, physical

Frank D. Huttlinger, M.S., Pennsylvania State, Assistant Professor—cartography, air photo interpretation, Latin American studies

Neal G. Lineback, Ph.D., Tennessee, Professor and Chair—urban, physical, geographical inventories, production cartography

Mark E. Neithercut, M.A., Michigan State, Instructor—historical geography, computer cartography

Jeffrey P. Richetto, Ph.D., Ohio State, Assistant Professor—social, economic, energy and facility siting

Adrian Straley, M.A., Ohio State, Adjunct Professor of Planning—urban planning

Patricia Tamarin, Supervisor, Cartographic Lab—remote sensing

David C. Weaver, Ph.D., Florida, Associate Professor and Director of the Regional and Urban Planning Program—urban, planning, economic, historic

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Kallsen, Thomas. "The Extension of Maritime Use Limits: The Case of Iceland," 1983.

Appalachian State University

DEPARTMENT OF COMMUNITY PLANNING AND GEOGRAPHY

DATE FOUNDED: [illegible] GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., M.A. for teachers

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 2

CHAIRPERSON: Ole Gade

FOR CATALOG AND FURTHER INFORMATION WRITE TO: H. Daniel Stillwell, Chairperson, Graduate Committee, Department of Community Planning and Geography, Appalachian State University, Boone, North Carolina 28608
Telephone (704) 262-3001

PROGRAMS AND RESEARCH FACILITIES: The M.A. in Geography allows emphasis on areas of interest varying from physical and cultural geography to urban/rural planning and recreational site development. Beyond a set of core courses, lecture, independent study, internships and special topics, courses are available with which an individualized program of study can be designed. The M.A. for teachers program allows preparation for teaching at various levels.

The geography department occupies the fourth floor of a modern science facility adjacent to the main library and contains well equipped cartographic/photo interpretation/remote sensing lab, map library and dark room facilities. Microprocessing graphics equipment, and a computer terminal, supplemental to the nearby university computer facility, are available within the department.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Graduate geography programs are open to qualified students with an undergraduate major in geography or a major approved by the graduate committee. A number of assistantships are available. Stipends range from $1600-$3600 per year with out-of-state tuition waived in selected cases. Internships in regional, urban and environmental analysis and planning are normally available during the internship period.

STAFF:

Ole Gade, Ph.D., Michigan State, 1972, Professor—migration, urban and regional development and planning, geographic theory, quantitative methods, Europe

William Imperatore, Ed.D., Georgia, 1970, Professor and Chairperson—geographic education, meteorology, physical

Robert E. Reiman, Ph.D., Florida State, 1964, AICP, Professor and Coordinator of Community and Regional Planning Program—environmental analysis, planning theory, tourist region design, community development

Arthur B. Rex, M.A., Appalachian State University, 1980, Adjunct Instructor—physical geography, cartography

H. Daniel Stillwell, Ph.D., Michigan State, 1961, Professor—physical, biogeography, remote sensing, field techniques, cartography, recreational land use

Zaphon R. Wilson, M.A., Appalachian State University, 1978, Instructor—land use regulations, planning process

Roger A. Winsor, Ph.D., Illinois, 1975, Associate Professor—historical, environmental perception, behavioral, political, research methods

Arizona State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1923 GRADUATE PROGRAM FOUNDED: 1961

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 6 M.A., 4 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 32 M.A. 17 Ph.D.
NOT IN RESIDENCE: 1 M.A. 2 Ph.D.

CHAIRMAN: W. Donald McTaggart

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. W. Donald McTaggart, Department of Geography, Arizona State University, Tempe, Arizona 85287
Telephone (602) 965-7533

PROGRAMS AND RESEARCH FACILITIES: The Master of Arts degree requires 30 semester hours; a thesis is required. There is a program designed for: (1) those students planning to continue their graduate career at the Ph.D. level; (2) those students interested in teaching careers at the high school or two-year college levels; (3) those students interested in careers in urban and regional planning or environmental evaluation; and (4) those students wishing to specialize in spatial analysis of land use. Every effort is made to arrange each student's program to fit individual interests, needs, and career objectives. The Ph.D. program emphasizes resource, environmental, and urban geography, and is tailored to student needs.

The large number of faculty and their diverse training provide for a wide range of course offerings and research guidance to include nearly all systematic or regional interests on the part of students. Faculty interest, combined with the location of the University in the greater Phoenix metropolitan area in southwestern United States, provides an ideal laboratory for urban geography, urban climatology, arid land research, and cultural geography. Northern Mexico and the Western mountains are within easy reach for field research.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Academic plan—semester system. Admission requirements for M.A.—undergraduate major in geography or 15 semester hours in geography and related fields, with a B average for the last two academic years; for Ph.D.—Master's degree in geography or related field or equivalent, and B average at the graduate level. GRE scores are also used in determining admittance.

Teaching assistantships, university scholarships, and other awards are available. Stipends range from $5,200 to $5,600 for the academic year. Out-of-state tuition is waived for graduate assistants and associates.

STAFF:

William J. Acker, Ph.D., Syracuse, 1969, Associate Professor—regional, economic, military, urban, Europe

Frank T. Aldrich, Ph.D., Oregon State, 1972, Associate Professor—biogeography, cartography/computer graphics, field methodology, remote sensing

Anthony J. Brazel, Ph.D., Michigan, 1972, Associate Professor and Director, Laboratory of Climatology—physical, microclimatology, Alpine climatology, applied meteorology

Andrew M. Carleton, Ph.D., Colorado, 1982, Assistant Professor—meteorology/climatology

Malcolm L. Comeaux, Ph.D., Louisiana State, 1969, Associate Professor—cultural, historical, history of geographic thought, Southwestern United States

Melvin J. Frost, Ph.D., Florida, 1964, Assistant Professor—agricultural, physical, Latin America

Patricia Gober, Ph.D., Ohio State, 1975, Associate Professor—population, regional economic development, urban, elderly migration

William L. Graf, Ph.D., Wisconsin, 1974, Associate Professor—fluvial, man/environment, arid lands, Alpine geomorphology

Ray Henkel, Ph.D., Wisconsin, 1971, Assistant Professor—agricultural, Latin America, Africa, environmental

John F. Lounsbury, Ph.D., Northwestern, 1951, Professor—field methodology, land use, research methods, physical, Caribbean America

Melvin G. Marcus, Ph.D., Chicago, 1963, Professor—physical, climatology, environmental, glaciology, Alpine and Polar regions

W. Donald McTaggart, Ph.D., Australian National, 1963, Professor and Chairman—underdeveloped nations, urban, Southeast Asia

Robert C. Mings, Ph.D., Ohio State, 1966, Associate Professor—recreational, economic, Latin America

L. Mayland Parker, Ph.D., Cornell, 1955, Professor—cultural, agricultural, economic, community development

Martin J. Pasqualetti, Ph.D., UC, Riverside, 1977, Assistant Professor—energy and society, energy education, cultural, Mexico

Charles S. Sargent, Jr., Ph.D., UC, Berkeley, 19[illegible], Associate Professor—urban, historical, Europe, Latin America

Guido G. Weigend, Ph.D., Chicago, 1949, Professor and Dean of the College of Liberal Arts—port and ocean transportation, political, Europe and Soviet Union

Leo E. Zonn, Ph.D., Wisconsin-Milwaukee, 1975, Associate Professor—social and urban, population, land use

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Earl, Richard A. "Paleohydrology and Paleoclimatology of the Skunk Creek Basin during Holocene Time," 1983.

Gordon, Rena J. "Externality Effects of a Private Mental Hospital," 1983.

Quinn, Joyce A. "Relationships between Environment and Chaparral, Juniper, and Oak Woodland in Arizona," 1982.

Winchell, Dick G. "Space and Place of the Yavapai," 1982.

Master's:

Bender-Lamb, Sylvia L. "Chandler, Arizona: Landscape as a Product of Land Speculation," 1983.

Eichberg, Siegfried. "General Aviation and Its Impact on Land Use Development Adjacent to or near Falcon Field Municipal Airport, Mesa, Arizona," 1982.

Kukino, Douglas Y. "A Case Study of the Coronado Neighborhood Centrifiers, Phoenix, Arizona, 1982," 1983.

Marcus, Lisa N. "The Spatial and Temporal Evolution of Tonto National Forest, Arizona," 1983.

Marcus, W. Andrew. "Copper Dispersion in Ephemeral Stream Sediments, Queen Creek, Arizona," 1983.

McQueen, Jon D. "The Amount, Type, and Ramifications of Tax-Exempt Land within Corporate Limits of Tempe," 1982.

University of Arizona

DEPARTMENT OF GEOGRAPHY AND REGIONAL DEVELOPMENT

DATE FOUNDED: 1961 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A., M.Ed., Ph.D.

GRANTED 7/1/82-6/30/83: 6 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 19 M.A. 8 Ph.D.
NOT IN RESIDENCE: 2 M.A.

HEAD: Lay James Gibson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Lay James Gibson, Department of Geography and Regional Development, University of Arizona, Tucson, Arizona 85721
Telephone (602) 621-1652, 1526

PROGRAMS AND RESEARCH FACILITIES: Candidates for the Master of Arts degree must earn 30 units of graduate credit. Five specific courses are required: The

Summer Field Camp, Current Geographical Research, Geographical Analysis, Masters Research Seminar, and History of Geographic Thought. The Master of Education degree with a major in geography requires at least 32 units in Geography and in Education, but no thesis.

The Ph.D. requires completion of the M.A. requirements, specialization in one topical and one regional area, two foreign languages or one foreign language plus acceptable quantitative skills, and an original dissertation.

Fields of special emphasis include behavioral, cultural-historical, economic, and urban geography, regional development, some aspects of physical geography, Anglo-America, Arid Lands, and Latin America.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system; Field Camp offered in summer only. GRE scores, Aptitude and Advanced, required for admission. Several assistantships with stipends beginning at $5225 (one-half time) and including remission of out-of-state tuition are available to qualified applicants. Applications for assistantships should be complete by February 15.

STAFF:

D. Robert Altschul, Ph.D., Illinois, 1966, Associate Professor—rural settlement, physical, Africa

Michael E. Bonine, Ph.D., Texas, 1975, Associate Professor of Oriental Studies—Middle East, Middle Eastern urbanism

Terence Burke, Ph.D., Birmingham, 1967, Professor and Associate to the President—economic and political geography, Western Europe

Lay James Gibson, Ph.D., UCLA, 1968, Professor—economic, urban, regional development

Melvin E. Hecht, Ph.D., Kansas, 1962, Professor—U.S. historical-cultural, the Southwest

Charles F. Hutchinson, Ph.D., UC, Riverside, 1978, Program Director, Applied Remote Sensing, Office of Arid Lands Studies—remote sensing, physical, arid lands

Janice Monk, Ph.D., Illinois, 1972, Associate Director, Southwest Institute for Research on Women—women's studies, geographic education, minority settlement

Gordon F. Mulligan, Ph.D., British Columbia, 1977, Associate Professor—economic, urban, regional development

Leland R. Pederson, Ph.D., UC, Berkeley, 1965, Professor—historical, cultural, Latin America

David A. Plane, Ph.D., Pennsylvania, 1981, Assistant Professor—migration, transportation, regional development

Richard W. Reeves, Ph.D., UCLA, 1970, Professor—geomorphology, arid lands, cartography

Thomas F. Saarinen, Ph.D., Chicago, 1966, Professor—perception of environment, resource management, urban

Dan Stanislawski, Professor Emeritus

Andrew W. Wilson, Professor Emeritus

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

McGrath, David Gibbs. "The Concept of Environment in Early Twentieth-Century American Geographic Thought," 1983.

Russell, Robert Patric, Jr. "Mountain Parklands of the Chiricahuas," 1982.

Vierck, Steven Lee. "Regional Impacts of Substantial Reduction in Basic Employment: Economic and Demographic Impacts of the 1974-1975 Mine Closures on Bisbee, Arizona," 1983.

Wallace, Marian. "The Incidence of Retail and Service Establishments in Arizona Communities: A Cross-Sectional Analysis," 1983.

University of Arkansas, Fayetteville

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1948 GRADUATE PROGRAM FOUNDED: 1949

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 8
NOT IN RESIDENCE: 4

CHAIRPERSON: John G. Hehr

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. John G. Hehr, Chairperson, Department of Geography, University of Arkansas, Fayetteville, Arkansas 72701
Telephone (501) 575-3159

PROGRAMS AND RESEARCH FACILITIES: The department offers a program of instruction and research leading to a Master of Arts degree. A minimum of 30 semester hours of graduate work is required to complete the degree. The department is particularly strong in the areas of physical geography (geomorphology, meteorology, climatology) and cartography, but programs in certain areas of human geography can be tailored to meet the needs of individual students. Students are also encouraged to take appropriate courses related to their interests in other departments. Research facilities include a university library with an extensive collection of geography publications and maps, a university computer system with computer-assisted mapping peripherals, and a departmental microcomputer laboratory with capabilities for digital color mapping, classification of satellite imagery, and statistical analysis. The department also operates a tree-ring laboratory supported by the National Science Foundation.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University is on the semester system. Acceptance by the University Graduate

School is prerequisite to admission by the department. Half-time teaching and research assistantships are available for the nine-month academic year and include remission of all tuition.

STAFF IN GEOGRAPHY:

John C. Dixon, Ph.D., Colorado, 1983, Assistant Professor—geomorphology, Alpine processes, oceanography

Thomas O. Graff, Ph.D., Kansas, 1973, Associate Professor—population, location theory, quantitative methods

John G. Hehr, Ph.D., Michigan State, 1971, Associate Professor—meteorology, climatology, Latin America

O. Orland Maxfield, Ph.D., Ohio State, 1963, Professor—geographic thought, natural resources, urban, historical U.S.

Earl M. Neel, Ph.D., Tennessee, 1963, Assistant Professor—cultural, manufacturing, Monsoon Asia

Richard M. Smith, D.A., Northern Colorado, 1974, Assistant Professor—cartography, social

David W. Stahle, M.A., Arkansas, 1978, Research Associate and Director of Tree-Ring Laboratory—dendrochronology, archeology

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Fouke, John C. "Atmospheric Circulation Patterns and Arkansas Drought," 1983.*

Ball State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1965 **GRADUATE PROGRAM FOUNDED: 1955**

DEGREES OFFERED: M.A.

GRANTED 7/1/82–6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 9
NOT IN RESIDENCE: 6

CHAIRMAN: Gerald R. Showalter

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Department of Geography, Ball State University, Muncie, Indiana 47306—for Department information. Catalog—Graduate information: Graduate School, Ball State University, Muncie, Indiana 47306.
Telephone (317) 285-6275

PROGRAMS AND RESEARCH FACILITIES: Graduate work through the Master of Arts degree in Geography and Earth Science. A cognate (minor) is available in geography or earth science on the doctorate program in Education. The department maintains close ties with various departments and programs in the College of Sciences and Humanities, College of Architecture, and College of Business. Special research and work facilities include cartography, aerial photography, remote sensing, earth science, and physical geography laboratories, a fully equipped weather station, map collection, materials resource center, computer terminals, and microcomputers.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Admission requirements comply with those of the University; forms obtainable from the Office of Admissions. Autumn, Winter, and Spring quarters, and two summer terms of five weeks each. Graduate assistantships $3300 per academic year available. Partial remission of fees.

STAFF:

George F. Beatty, Ph.D., Illinois, 1958, Professor—land utilization, agricultural-rural, physical, Asia

Thomas P. Grimes, Ph.D., Kentucky, 1972, Associate Professor—physical, recreation, history and philosophy, quantitative methods

Barry N. Haack, Ph.D., Michigan, 1977, Assistant Professor—remote sensing, physical, wind energy simulation models, Africa

Emlyn Trevor Jones, M.A., McMaster, 1970, Keele, 1972, Adjunct Professor—social/economic, Europe (London Centre)

Edward E. Lyon, Ph.D., Ohio State, 1972, Professor—education geography, physical, Anglo-America, geomorphology

Charles E. Martin, B.A., Syracuse, 1980, Staff Cartographer—computer-assisted cartography, computer programming

Tom L. Martinson, Ph.D., Kansas, 1969, Professor—cultural, agricultural, bibliography, teaching strategies, Latin America

Raymond A. Peterson, Ph.D., Florida, 1967, Associate Professor—agricultural land use, U.S. and Canada, remote sensing

Meera Schoen, Ph.D., London, 1951, Associate Professor—Third World urbanization, cultural, Asia

Gerald R. Showalter, Ph.D., Illinois, 1973, Associate Professor—thematic cartography, agricultural development, marketing, tourism, Caribbean

J. Andrew Slack, ABD, Georgia, 1983, Assistant Professor—taxonomy, retailing, urban transportation

Michael E. Sullivan, Ph.D., Illinois, 1972, Associate Professor—industrial, location, urban-social

Carlos R. Valenzuela, M.A., International Institute for Aerial Surveys and Earth Science, 1977, Instructor—remote sensing, numerical analysis

David L. Wheeler, Ph.D., Michigan, 1962, Professor and Dean of the Graduate School—historical geography, land utilization

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Nelson, Susan L. "Type Obscurance: A Comparison of Two Areal Dot Patterns," 1983.

Boston University

DEPARTMENT OF GEOGRAPHY

GRADUATE PROGRAM FOUNDED: 1922

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 1 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 25
NOT IN RESIDENCE: 9

CHAIRMAN: T. R. Lakshmanan

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Jeffrey P. Osleeb, Director of Graduate Studies, Department of Geography, Boston University, 48 Cummington Street, Boston, Massachusetts 02215
Telephone (617) 353-2525

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers a strong training that emphasizes traditional geographic theory, quantitative techniques, and environmental and policy studies. Analytical rigor combined with training in decision and policy analysis provides graduates with flexibility for choosing a career in government at environmental, economic and resource analysis levels, cartography, research institutes, consulting firms, or international organizations.

Special emphasis of graduate study in the department lies in five subfields within the discipline: 1) urban and regional analysis and policy; 2) environmental systems and resource analysis; 3) energy analysis and policy; 4) geography of development; and 5) cartography. Opportunities exist in the department for graduate student participation in various applied research projects. Faculty have been engaged in research sponsored by such agencies as the National Science Foundation; U.S. Department of Energy; U.S. Environmental Protection Agency; U.S. Health, Education and Welfare Department; First National Bank of Boston; World Bank; United Nations; and U.S. Maritime Administration.

Interdisciplinary opportunities at Boston University are available at the Center for Energy and Environmental Studies, African Studies Center, Center for Latin American Development Studies, Center for Asian Development Studies, American and New England Studies Program, Afro-American Studies, Center for Applied Social Science, and Urban and Regional Planning Program.

University and departmental facilities open to the student include multiple terminals for the Computation Center's IBM 3081, a cartographic laboratory, computer mapping and digitizing facilities, map library, meteorological station and soils laboratory. Extensive library and museum resources are accessible from the University's central location in Metropolitan Boston. The Boston area provides outstanding research opportunities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Boston University is on the semester system. Prospective graduate students should write the Director of Graduate Studies for applications and instructions for submitting complete credentials. The Graduate Record Examination is requested of all applicants. Financial aid includes Teaching Fellowships of $4,750 plus remission of fees for up to five courses per academic year. Research Fellowships and Graduate Assistantships that provide financial assistance in exchange for research and other departmental duties are also available.

FACULTY:

William Anderson, M.A., Boston, 1980, Instructor—economic, urban, energy and environment

Geoffrey Bannister, Ph.D., Toronto, 1974, Associate Professor and Dean of College of Liberal Arts—urban economic, location theory, regional policy

Robert Batchelder, Ph.D., Northwestern, 1951, Professor—environmental analysis, climatology, air quality, physical oceanography

Alan C. G. Best, Ph.D., Michigan State, 1965, Associate Professor—geography of development, political, Southern Africa

Lata Chatterjee, Ph.D., Johns Hopkins, 1973, Associate Professor—urban and environmental analysis, housing, geography of development

Thomas E. Glick, Ph.D., Harvard, 1968, Professor—environmental history, historical geography, technology and development

Chang-i Hua, Ph.D., Harvard, 1972, Associate Professor—urban, regional energy, transportation

Thomas Kontuly, Ph.D., Pennsylvania, 1978, Assistant Professor—geography of development, regional analysis and policy, population, economic, urban

T. R. Lakshmanan, Ph.D., Ohio State, 1965, Professor and Chairman, Director, Center for Energy and Environmental Studies—urban, environmental and energy modeling and policy, geography of development

George K. Lewis, Ph.D., Harvard, 1956, Professor—urban, environmental quality, New England, regional policy

Robert C. Mayfield, Ph.D., Washington, 1961, Professor and Vice President for External Programs—geography of development, South Asia

Eliza McClennen, B.A., Briarcliff, 1970, Instructor—cartography

Jeffrey P. Osleeb, Ph.D., SUNY Buffalo, 1974, Associate Professor—urban, economic, energy, regional policy, transportation

Samuel J. Ratick, Ph.D., Johns Hopkins, 1979, Associate Professor and Associate Director, Center for Energy and Environmental Studies—environment, energy, quantitative methods

Chi Ho Sham, M.A., SUNY Buffalo, 1980, Instructor—climatology, water resources, quantitative methods, geomorphology

ADJUNCT FACULTY:

Fred Mogolesko, Ph.D., New York University, 1978, Adjunct Assistant Professor and Environmental Sciences Group Leader, Nuclear Engineering Department Boston Edison Company—environmental and energy modeling and policy, meteorology

VISITING FACULTY:

R. H. Chaudhury, Ph.D., Johns Hopkins, 1973, Senior Research Demographer, Bangladesh Institute of Development Studies, Dacca—demography, geography of development

W.A. Hafkamp, ABD, Amsterdam, 1982—regional economics, environmental economics, mathematical economics

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Olsson, Jonathan T. "The Structure of Interregional Trade in the United States," 1983.

Master's:

Reinert, Kenneth A. "Inter-Period Network Storage-Location Allocation Models: An Application to Wind Energy Conversion Systems," 1983.

Bowling Green State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1955 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A., M.A.T.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 14
NOT IN RESIDENCE: 2

CHAIR: Joseph G. Spinelli

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Adviser, Department of Geography, Bowling Green State University, Bowling Green, Ohio 43403
Telephone (419) 372-2925 or 2926

PROGRAMS AND RESEARCH FACILITIES: The Department has a well-equipped cartography laboratory and darkroom facilities. It also has a VT-100 CRT terminal and an Apple-II Plus microcomputer with digitizer and plotter located in the Department. Students also have access to the IBM 370-158 and Dec-20 system computers on campus. The Department is a map depository for various governmental agencies, including the U.S. Geological Survey and the National Ocean Survey—Great Lakes Series and recently moved its collection to modern quarters in the main library. The main emphases in our graduate work are Urban-Economic, Physical Geography, Cartography, and Cultural-Population, all with an applied orientation. The Department has its own internship program and is one of the University's most active participants in a Cooperative Education Program. *East Lakes Geographer* and *Journal of Cultural Geography* are edited by members of the faculty.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. Maximum stipend of $4461 for graduate assistantships with tuition paid.

FULL-TIME AND PART-TIME STAFF:

Thomas D. Anderson, Ph.D., Nebraska, 1966, Professor—cultural, field methods, land use

William R. Buckler, Ph.D., Michigan State, 1981, Assistant Professor—soils, geomorphology

Joseph C. Buford, Ph.D., UCLA, 1962, Professor—political, Europe

Alvar W. Carlson, Ph.D., Minnesota, 1970, Professor—rural development, recreation, ethnicity

Stephen S. Chang, Ph.D., UCLA, 1971, Associate Professor—cultural, conservation, resources/regional development

Paul V. Crawford, Ph.D., Kansas, 1969, Professor—cartography, geomorphology, soil

Ralph W. Frank, Ph.D., Northwestern, 1952, Professor—economic, Asia, education

Glen R. Frey, Ph.D., Wisconsin-Milwaukee, 1972, Associate Professor—climatology, meteorology, hydrology

Jeffrey J. Gordon, Ph.D., Syracuse, 1978, Assistant Professor—cultural, economic

John Hiltner, Ph.D., Northwestern, 1958, Professor—urban, Middle East, gerontology

John W. Kunstmann, Ph.D., Northwestern, 1964, Associate Professor—physical, air photo, remote sensing

Mohan N. Shrestha, Ph.D., Iowa, 1969, Professor—economic, quantitative analysis, computer mapping

Bruce W. Smith, Ph.D., Illinois, 1970, Professor—industrial location, gerontology, regional development

Joseph G. Spinelli, Ph.D., Florida, 1973, Associate Professor/Chairman—population, Latin America, Commonwealth Caribbean

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Deaner, Debra L. "An Analysis of Service Utilization Patterns by Rural and Urban Elderly in Northwest Ohio," 1982.

Hidlebaugh, Teresa A. "Subsidence of the Cultivated Organic Soils of the Celeryville-Willard Marsh of North-Central Ohio," 1982.

Brigham Young University

DEPARTMENT OF GEOGRAPHY

FOR FURTHER INFORMATION WRITE TO: Russell N. Horiuchi, Chairman, Geography Department, Brigham Young University, Provo, Utah 84602
Telephone (801) 378-3851

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Almquist, Gilbert M. "World Political, Geographical, and Business Risks," 1983.

Bahbah, Michel A. "Holy Land: Tourism and Perceptions," 1983.

Kolb, Franz. "The Northern Ute Indian Reservation: Established Boundaries and Changes," 1983.

Newkirk, Gregory A. "A Multi-Use Zoning Model for Land-Use Planning," 1983.

California State University, Chico

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 18
NOT IN RESIDENCE: 0

CHAIRMAN: Richard L. Haiman

FOR FURTHER INFORMATION WRITE TO: Graduate Advisor, Department of Geography, California State University, Chico, California 95929
Telephone (916) 895-5285

PROGRAMS AND RESEARCH FACILITIES: The master of arts program in geography is intended to broaden the training and to prepare qualified students for: (1) public schools and community college teaching in geography and social science; (2) advanced academic work preparatory to the doctorate at other institutions; and (3) employment in public service and the private sector where an advanced degree is desirable.

Students may concentrate their studies in either physical or cultural geography and/or Planning and Development of the Rural Environment.

The department offers excellent facilities for study in geography. It occupies most of the fifth floor of a seven-story, air-conditioned, classroom-office building (Butte Hall). The facilities include the Geographical Services Office which houses an extensive collection of maps, technical equipment and slides which are available for student use.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: California State University, Chico operates two semesters and summer sessions. Applicants wishing to pursue a master's degree must have an acceptable baccalaureate degree with an undergraduate grade point average of at least 2.75 in the last sixty semester units and 3.00 in the last thirty semester units, and a grade point average of at least 3.00 in all post-baccalaureate graduate level coursework taken. If undergraduate geography work is deficient, the applicant will be required to take courses prescribed by the graduate committee.

Depending on the budgetary allocations, the graduate program in geography may offer two or three assistantships per academic year. The assistantships are granted to qualified graduate students to teach and do research in the department. Teaching is generally in laboratories in air photo interpretation. Research is generally related to various department and faculty study-related requirements. Awards are made on a competitive basis.

STAFF:

Bruce E. Bechtol, Ph.D., Oregon, 1969, Professor—man and environment, field methods, Latin America, spatial concepts

Roland Berger, Ph.D., Wisconsin, 1973, Professor—planning, economic development, appropriate technology

William Collins, Ph.D., Cincinnati, 1974, Professor—urban, quantitative, location analysis, planning

Richard L. Haiman, Ph.D., UCLA, 1973, Professor and Chairman—physical, biogeography, field geography, Latin America

Ladd L. Johnson, Ph.D., UCLA, 1970, Professor—cultural, political, population, water resource development, lesser developed countries

Arthur E. Karinen, Ph.D., Maryland, 1959, Professor—cartography, population, historical, recreation and tourism

David W. Lantis, Ph.D., Ohio State, 1950, Professor—physical, California, Anglo-America, Europe

Gene E. Martin, Ph.D., Syracuse, 1955, Professor—cultural, field methods, Latin America

Ralph F. Meuter, Ph.D., Oklahoma, 1970, Professor—economic, location analysis, urban, regional and community planning (Dean, University Continuing Education)

Louis J. Mihalyi, Ph.D., UCLA, 1969, Professor—economic, political, sub-Saharan Africa, aerial photo interpretation, forestry

Edward L. Myles, Ph.D., Michigan, 1973, Associate Professor—urban, economic, planning, Australia, Anglo-America, spatial concepts

Frank Seawall, Ph.D., Pennsylvania State, 1957, Professor—physical, transportation, urban, Anglo-America

Margaret Trussell, Ph.D., Oregon, 1969, Professor—environmental issues, historical, agricultural, map reading and interpretation

Jerry R. Williams, Ph.D., Florida, 1969, Professor—cultural, economic, Latin America, tropics

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:

Campion, Curtis. "Applied Planning Methods for Controlling Development: Case Study of Planning Alternatives for the Magalia, California, Reservoir Watershed," 1983.

Habiger, Frank. "Natural Hazard Potential Associated with a Volcanic Eruption of Mt. Shasta," 1982.

Harvey, Jeffrey. "Small Hydroelectric Development: Process, Issues, and Methodology for Preliminary Cumulative Impact Assessment," 1983.

California State University, Fresno

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1925 GRADUATE PROGRAM FOUNDED: 1964

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 14
NOT IN RESIDENCE: 2

CHAIRMAN: Stanley F. Norsworthy

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Department of Geography, California State University, Fresno, Fresno, California 93740
Telephone (209) 294-2797

PROGRAMS AND RESEARCH FACILITIES: The Geography Department is authorized to grant the Master of Arts Degree with a major in Geography. The student may select one of two programs: Plan A (thesis) and Plan B (non-thesis). Plan A is designed to provide a thorough preparation leading to careers in research and scholarly work or in college or university teaching. Plan B is designed for those who will profit from a broader range of knowledge in geography rather than a more specific research interest. The objective of both plans is to provide a thorough preparation in general geography; experience in conducting independent research; and an opportunity for limited specialization.

The department is housed in the New Science Building. Excellent facilities are available for student use.

MASTER OF ARTS DEGREE IN GEOGRAPHY (THESIS PLAN)

1. Required courses: 9 units—Research and Writing (3); Thesis (6)
2. Select from the following seminars, including one physical, one human system-

atic, and one regional seminar, 9 units appropriate to program objective—Seminars: economic; human; physical; selected regions.

3. Electives in geography: 6-9 units.
4. Electives outside of geography: 3-6 units.
5. Total required: 30 units.

MASTER OF ARTS DEGREE IN GEOGRAPHY (NON-THESIS PLAN)

1. Required courses: 3 units—Research and Writing.
2. Select 15 units from the following seminars including one physical, one human systematic, and one regional seminar—Seminars: economic; human; physical; selected regions; geographic thought.
3. Electives in geography: 6-9 units.
4. Electives outside of geography: 3-6 units.
5. Total required: 30 units.

In addition to the course requirements, applicants for the Master of Arts Degree must meet the entrance standards of the University and pass the department's qualifying examination. There will be a final oral examination for non-thesis plan students and an oral thesis defense for thesis plan students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: CSU, Fresno operates on the semester system (plus summer session). The general graduate school admission requirements are described in the CSU, Fresno *Bulletin*. Various forms of financial aid are available to graduate students. The graduate assistantship application deadline is April 1.

STAFF:

Michael Biechler, Ph.D., Michigan State, 1970, Professor and Assistant Vice President for Academic Affairs—agriculture, Latin America, population, natural resources

Chester F. Cole, Ph.D., Nebraska, 1951, Professor—political, historical

John A. Crosby, Ph.D., Washington, 1959, Professor—urban, map-air photo interpretation

Roger E. Ervin, Ph.D., Florida, 1954, Professor—Pacific world, soils

E. Frank Koller, Ph.D., Pennsylvania State, 1964, Professor—energy resources, Europe

James S. Kus, Ph.D., UCLA, 1972, Professor—cultural, Latin America

Robert E. Lee, Ph.D., UCLA, 1966, Professor—U.S.S.R., Africa, political

Charles G. Markham, Ph.D., UC, Berkeley, 1967, Professor Emeritus—climatology, Latin America, quantitative techniques

Richard C. Montgomery, Ph.D., Nebraska, 1962, Professor—landforms, environmental studies

Donald L. Morgan, Ph.D., UC, Davis, 1972, Professor—meteorology, hydrology, environmental studies

George N. Nasse, Ph.D., Michigan, 1960, Professor—field geography, Middle East

Stanley F. Norsworthy, Ph.D., UCLA, 1970, Professor and Chairman—arid-lands, Canada, plant geography

William F. Slusser, M.A., CSU, Northridge, 1968; M.S., Utah State, 1973, Equipment Technician—meteorology

Merrill M. Stuart, Ed.D., Teachers College, Columbia, 1968, Professor—economic, California

Jerry C. Towle, Ph.D., Oregon, 1974, Professor—cultural, environmental studies

Paul Vander Meer, Ph.D., Michigan, 1973, Professor—East Asia,cartography, land use

California State University, Fullerton

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1959 GRADUATE PROGRAM FOUNDED: 1967

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 22
NOT IN RESIDENCE: 4

CHAIR: Wayne N. Engstrom

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Advisor, Department of Geography, California State University, Fullerton, California 92634
Telephone (714) 773-3161

PROGRAMS AND RESEARCH FACILITIES: The department offers a program designed primarily for students interested in educational, governmental, and commercial employment. Seminars and advanced courses include work in physical and human geography and frequently focus on themes related to environmental change and planning. Facilities in the computer center and the departmental cartographic laboratory make it possible to provide advanced work in photo-cartography, computer graphics, and quantitative analysis.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The current course of study requires about three semesters of full-time enrollment. Each student normally takes 12 hours of seminars, 3 hours of thesis research, additional advanced courses, and must satisfy a requirement in advanced techniques, for a total of 30 hours. The prerequisite consists of 18 semester hours of geography, reflecting balanced training in physical, human, regional, and technical courses. Approximately three technical assistantships are available.

STAFF:

H. Peter Eilers, Ph.D., Oregon State, 1975, Professor—biogeography, coasts (on leave)

Wayne N. Engstrom, Ph.D., Wisconsin, 1971, Professor and Chair—geomorphology

Gerald P. Hannes, Ph.D., Illinois, 1972, Professor—climatology
Ronald A. Helin, Ph.D., UCLA, 1961, Professor—Europe, U.S.S.R.
William J. Ketteringham, Ph.D., UCLA, 1972, Associate Professor—Latin America, land use, field methods
Tso-Hwa Lee, Ph.D., Southern Illinois, Carbondale, 1973, Professor—cartography, quantitative
Bill Puzo, Ph.D., UCLA, 1972, Professor—Africa, political, travel
Gertrude M. Reith, Ph.D., Clark, 1963, Professor Emeritus—California, environmental problems
Imre Sutton, Ph.D., UCLA, 1964, Professor—conservation, law and environment, natural hazards
Barbara A. Weightman, Ph.D., Washington, 1972, Professor—social, cultural, travel
Robert A. Young, Ph.D., Wisconsin, 1975, Associate Professor—urban, planning

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:
Lee, Christopher. "Secret Mountain/Red Canyons, Arizona: A Study of Resources and Management Alternatives," 1982.

California State University, Hayward

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1963 **GRADUATE PROGRAM FOUNDED: 1969**

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 23
NOT IN RESIDENCE: 2

CHAIRMAN: John H. Vann

FOR CATALOG AND FURTHER INFORMATION WRITE TO: V.K. Shaudys, Graduate Advisor, Department of Geography, California State University, Hayward, California 94542
Telephone (415) 881-3193 (Department Office)

PROGRAMS AND RESEARCH FACILITIES: Graduate study leads to the degree Master of Arts in Geography, with a choice from nine specialties: biogeography, cartography, cultural geography, growth of geographic throught, historical geography, physical geography, regional geography, regional planning, and urban geography. Seminars are focused on intensive, directed readings interspersed with discussions of the content, principles, methods and techniques of the selected topic or theme. The intent of the program is to develop a subject to its research frontiers, emphasizing an awareness of both theoretical and pragmatic problems and their significance for the discipline. Seminars are accompanied or followed by directed research yielding oral and written reports intended to motivate the student to recognize problems and to conduct guided investigation of a topic or theme. The program comprises 45 units, including 6 units of thesis or a special project. A graduate internship program is open to students with classified standing. Students must demonstrate proficiency in either a modern foreign language *or* in statistical methods as they apply to geography *or* in mathematics. Cartographic, laboratory, library, and computer facilities are available on campus. The research facilities of the University of California, Berkeley and Stanford University are nearby.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: At present the university operates on a four-quarter, year-round calendar. A student with an undergraduate degree in geography could complete the requirements for the M.A. in three to five quarters. Once admitted, the department may be able to arrange part-time employment as technical assistant.

STAFF:

Herbert M. Eder, Ph.D., UCLA, 1963, Professor—cultural, agricultural, Middle America, the American tropics

Donald G. Holtgrieve, Ph.D., Oregon, 1973, Professor—geographic education, historical, environmental impact analysis

John Lier, Ph.D., UC, Berkeley, 1968, Professor—urban, climatology, population, Europe

Thomas H. Pagenhart, Ph.D., UC, Berkeley, 1969, Associate Professor—water and energy resources, conservation, resource management, Anglo- and Latin America

Vincent K. Shaudys, Ph.D., Ohio State, 1956, Professor—political, regional theory, North America, South Asia, Pakistan (leave of absence, Fall 1982)

Richard S. Thoman, Ph.D., Chicago, 1953, Professor and Graduate Advisor—regional planning and development, economic, North America, growth of geographic thought

William L. Thomas, Ph.D., Yale, 1955, Professor—cultural, geographic theory and philosophy, Southeast Asia, Philippines, East and Southeast Asia, Pacific, tourism

John H. Vann, Ph.D., UC, Berkeley, 1960, Professor and Chairman—physical, geomorphology, alluvial and coastal morphology, Latin America, air photo and remote sensing

Robert E. Winter, Ph.D., candidate, Washington, Lecturer—cartography, map and air photo reading and interpretation

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Boysen, Regine. "Environmental Attitudes in the History of the California State Water Project," 1983.

California State University, Los Angeles

DEPARTMENT OF GEOGRAPHY AND URBAN STUDIES

DATE FOUNDED: 1951 GRADUATE PROGRAM FOUNDED: 1952

DEGREES OFFERED: M.A. (Geography)

GRANTED 7/1/82–6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 50
NOT IN RESIDENCE: 3

CHAIRMAN: Sin-Fong Han

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Department of Geography and Urban Studies, California State University, Los Angeles, 5151 State University Drive, Los Angeles, California 90032
Telephone (213) 224-3822

PROGRAMS AND RESEARCH FACILITIES: The Master of Arts degree in Geography, at California State University, Los Angeles, requires intensive directed study aimed at depth of understanding and intellectual attainment.

The program is designed to prepare students for teaching at all levels, government employment, and advanced preparation in the fields of Geography and Urban Studies.

The department offers some forty undergraduate courses and five graduate seminars to meet degree program objectives. The instructional program is enriched by special topic classes offered by distinguished foreign visiting professors and regular staff. The department also offers a full quarter of instruction and field experience at a station in Mexico, staffed with an interdisciplinary faculty.

The department recognizes the individuality of each student; hence there is considerable flexibility in the program. The following requirements, however, must be satisfied:

1. A Bachelor's degree in geography or its acceptable equivalent.
2. A minimum of 23 quarter units of graduate courses in Geography which must include at least 4 seminars one of which must be the Nature of Geography .... Minimum 23 quarter units.
3. Electives in Upper Division or Graduate courses in geography .... Minimum 14 quarter units.
4. Electives in Upper Division or Graduate courses in field related to geography .... 0–8 quarter units.
   Minimum total 45 quarter units.
5. Graduate thesis or comprehensive examination.
6. Competency in a foreign language or statistics.
7. Completion of the program within 7 years.

The department is able to offer limited financial assistance to a few of its deserving graduate students. Inquiries should be directed to the Department Chair.

The University operates year-round on the quarter system. Students can enter the program at the beginning of any quarter. An appropriate baccalaureate degree from an accredited institution and a formal application to the Office of Admissions and Records is required for admission to the University. Students in need of financial assistance to meet educational expenses are invited to correspond with the University's Financial Aids Office.

STAFF:

Richard Arvidson, Ph.D., Johns Hopkins, 1970, Professor—climatology, environmental perception, geomorphology

William Byron, Ph.D., Syracuse, 1954, Professor—cultural, cartography, Middle America

Norman Gosenfield, Ph.D., UCLA, 1973, Associate Professor—cultural, political, urban

Sin-Fong Han, Ph.D., Michigan, 1971, Professor and Chairman—population, location theory, China, developing countries

John Kirchner, Ph.D., Chicago, 1979, Assistant Professor—cultural, transportation, South America

Vincent Mazzucchelli, Ph.D., UCLA, 1973, Associate Professor—cartography, physical, California, deserts

Midori Nishi, Ph.D., Washington, 1955, Professor—cultural, Japan, ethnic minorities

Clement Padick, M.A., UCLA, 1957, Associate Professor—physical, field methods, remote sensing

David Radell, Ph.D., UC, Berkeley, 1969, Professor—cultural, urban, Middle America

John Rees, Ph.D., UCLA, 1971, Associate Professor—cultural, perspectives on environment, Middle America

EMERITUS FACULTY:

Harry Coffin, Ph.D., UC, Berkeley, 1961, Professor

William S. Ting, Ph.D., Glasgow, 1937, Professor

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Grove, Beverly C. "A Study of Areas of High Density of Aged Persons in the City of Miami, Florida—1970," 1982.

Schuttelhofer, Peter A. "Geography of Crime: A Locational Analysis of Criminal Acts Connected with Public Transportation Systems of Southern California in the Los Angeles Area," 1983.

California State University, Northridge

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1960

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 30

CHAIR: Ralph D. Vicero

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Office of Graduate Studies, California State University, Northridge, Northridge, California 91330
Telephone (213) 885-3532

PROGRAMS AND RESEARCH FACILITIES: Major emphases: cartography, climatology-meteorology, cultural, economic, historical, urban, quantitative, geomorphology. Research facilities: Complete cartographic facilities to support drawing, production, and printing of maps (laboratories, cameras, dark room, press). Computerized climatology laboratory, Sanborn map library (depository for maps of cities west of the Mississippi River—145,000 plates). Research map library (275,000 flat maps, 75,000 air photographs). Quantitative laboratory and computer access.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Admission to program with an adequate geographic preparation and a GPA of 3.0 or better. Provisional admission with GPA of 2.5 and an acceptable GRE score.

FACULTY:

James P. Allen, Ph.D., Syracuse, 1970, Professor—cultural, social, population, Anglo-America

Warren R. Bland, Ph.D., Indiana, 1970, Professor—economic, transportation, manufacturing, Canada

William A. Bowen, Ph.D., UC, Berkeley, 1972, Professor—historical, physical, California

Arnold Court, Ph.D., UC, Berkeley, 1956, Professor—climatology, quantitative

William Tim Dagodag, Ph.D., Oregon, 1972, Professor—urban, Latin America

Robert Gohstand, Ph.D., UC, Berkeley, 1973, Professor—Soviet Union, cartography

Robert Hoffpauir, Ph.D., Wisconsin, 1974, Professor—cultural, South Asia

David Hornbeck, Jr., Ph.D., Nebraska, 1974, Professor—historical, Southwest U.S., California, economic, applied geography

Robert B. Howard, Ph.D., UCLA, 1974, Associate Professor—geomorphology

Phillip S. Kane, Ph.D., UC, Berkeley, 1975, Professor—geomorphology

Robert B. Lamb, Ph.D., UCLA, 1959, Professor—agricultural, climatology

Gordon Rowland Lewthwaite, Ph.D., Wisconsin, 1956, Professor—historical, Southwest Pacific, history of geographic thought

Gong-Yuh Lin, Ph.D., Hawaii, 1974, Professor—meteorology, cartography

C. Gary Lobb, Ph.D., UC, Berkeley, 1970, Professor—cultural, tropical ecology, Latin America

Elliot G. McIntire, Ph.D., Oregon, 1968, Professor—cultural, Southwest U.S., conservation

Eugene J. Turner, Ph.D., Washington, 1977, Associate Professor—cartography, computer applications

Ralph D. Vicero, Ph.D., Wisconsin, 1968, Professor—historical Anglo-America

I-shou Wang, Ph.D., Minnesota, 1971, Professor—population, East Asia

PART-TIME FACULTY:

Robert M. Newcomb, Ph.D., UCLA, 1958, Associate Professor—historical and contemporary Europe

EMERITUS FACULTY:

John F. Gaines, Ph.D., Nebraska, 1951, Professor—plant geography, California

David A. Henderson, Ph.D., UCLA, 1964, Professor—Mexico, historical, marine resources

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Mosleh, Zahra H. "Rural-Urban Migration and Urban Poverty: The Case of Tehran, 1962-1978," 1982.

Nichols, Thomas L. "California Shore Whaling, 1854 to 1900," 1982.

Schutz, Randall C. "Literary Images of the Southern Pacific Railroad," 1982.

University of California, Berkeley

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1905 GRADUATE PROGRAM FOUNDED: 1908

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 9 M.A., 9 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 51
NOT IN RESIDENCE: 25

CHAIRMAN: Allan R. Pred

FOR CATALOG send $3.75 to the Office of the Registrar, 120 Sproul Hall, University of California, Berkeley, California 94720. For admissions application and departmental information write to: Professor Robert Reed, Graduate Advisor, Department of Geography, 501 Earth Sciences Building, Berkeley, California 94720 Telephone (415) 642-3903

PROGRAMS AND RESEARCH FACILITIES: A 6-million volume library with exceptional special collections in the Bancroft (Western Americana, Latin America) and East Asiatic libraries; a distinguished faculty of nearly 100 other departments and schools; a large computer center; and easy access to the matchless physical and cultural diversity of the San Francisco Bay Area and Northern California.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The department offers graduate training in cultural, economic, urban, social, regional, and physical geography, and places emphasis on the interrelationships among these specialties and related approaches in other disciplines. Cultural geography focuses on processes and relationships in the formulation of human-environment patterns, the culture of cities and rural areas, economic development, cultural influences on resource use, and the history of western and non-western ideas and knowledge of the environment. Urban geography stresses morphogenesis of American and European cities, the role of social forces in shaping cities, and transportation. In economic geography, themes include industrial location, city-system and regional development, and time-space interactions. Studies in environment and natural resources range from vegetational change and plant and animal domestication, species decline and habitat alteration, to government regulation of toxic wastes and land development. In physical geography, the department offers specialized training in structural, climatic, and regional geomorphology, atmospheric processes, paleoclimatology, biogeography, and pollen analysis. All of the fields noted above lend themselves to regional specialization. (See staff listing.) Cartography, statistics, field study and other methods courses are also available.

The department offers financial support in the form of a limited number of teaching assistantships, as well as the Holway Fellowship and Society of Woman Geographers Fellowship. Outstanding applicants are also considered for University Fellowships. Application deadlines: December 15 for Admission/Fellowship; February 1 for Admission only.

FULL-TIME STAFF:

Roger Byrne, Ph.D., Wisconsin, 1972, Associate Professor—historical biogeography, vegetation history, pollen analysis

Orman Granger, Ph.D., Toronto, 1974, Associate Professor—climatology, micrometeorology, the Caribbean

Peter Hall, Ph.D., Cambridge, 1959, Professor-urban and applied geography

David J. M. Hooson, Ph.D., London, 1955, Professor—Soviet Union, history of geographic thought, political geography

Bernard Q. Nietschmann, Ph.D., Wisconsin, 1970, Professor—cultural geography, cultural ecology, aboriginal environmental knowledge, fishing societies, tropical marine ecology, Latin America, Melanesia

Theodore M. Oberlander, Ph.D. Syracuse, 1963, Professor—structural and climatic geomorphology, deserts, thematic cartography

James J. Parsons, Ph.D., UC, Berkeley, 1948, Professor—Latin America (especially Central America and the Andean countries) and California, tropical biogeography, descriptive economic geography

Allan R. Pred, Ph.D., Chicago, 1962, Professor—time-geographic perspective on the individual and society, the growth and development of systems of cities in advanced economies, social theory

Robert R. Reed, Ph.D., UC, Berkeley, 1972, Associate Professor—cultural and historical geography, urbanism in the non-western world, religious geography, Southeast Asia

Hilgard O'Reilly Sternberg, Ph.D., Louisiana State, 1956, Professor—Portuguese America (Brazil) with emphasis on settlement and development in problem areas (Amazonia, the Northeast), humid tropics and the arid zones, the zonal approach to disjunct regions

James E. Vance, Jr., Ph.D., Clark, 1952, Professor—morphogenesis of U.S. and European cities, social structuring of cities, historical transportation geography, Canada

Richard A. Walker, Ph.D., Johns Hopkins, 1977, Associate Professor—environmental regulation, water resources, industrial location, economic development, Marxist theory, U.S. and California

Michael J. Watts, Ph.D., Michigan, 1979, Assistant Professor—natural hazards, Third World economic development, Africa, peasant economy, human and cultural ecology

PART-TIME STAFF:

Douglas R. Powell, M.A., UC, Berkeley, 1962, Lecturer—California, Alaska, field methods, physical

EMERITUS FACULTY:

Clarence J. Glacken
John Leighly
Daniel B. Luten

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Christopherson, Susan Marie. "Family and Class in a New Industrial City," 1983. Mf., University Microfilms

Groth, Paul Erling. "Forbidden Housing: The Evolution and Exclusion of Hotels, Boarding Houses, and Rooming Houses in America's Urban Residential Culture, 1880-1930," 1983. Mf., University Microfilms.

Hecht, Susanna B. "Cattle Ranching Development in the Eastern Amazon: Evaluation of a Development Policy," 1982. Mf., University Microfilms.

Murphy, Michael Edward. "An Historical Study of Irrigation in Celaya, Mexico," 1983. Mf., University Microfilms.

Priestaf, Iris Gail. "Sacramento River Seepage: Alternative Mitigating Measures," 1983. Mf., University Microfilms.

Storper, Michael Charles. "The Spatial Division of Labor: Technology, the Labor Process, and the Location of Industries," 1982. Mf., University Microfilms.

Master's:

Dorn, Ronald I. "Dating Rock Varnish," 1982.*

Fletcher, Thomas Christian. "The Mono Basin in the Nineteenth Century: Discovery, Settlement, Land Use," 1982.*

Fondahl, Gail Andrea. "The Demise of the Norse Greenland Colonies," 1983.*

Horn, Sally Peterson. "Late Quaternary Vegetation Change in Western Costa Rica: Pollen Evidence from Deep Sea Drilling Project Site 565," 1983.*

Pudup, Mary Beth. "Packers and Reapers, Merchants and Manufacturers: Industrial Structuring and Location in an Era of Emergent Capitalism," 1983.*

Roussève, Brian Paul. "Grassroots Development in Senegal, 1960-1970," 1983.*

Starrs, Paul Francis. "Evolutions in Place: Geographical Change in Esmeralda County, Nevada," 1983.*

University of California, Davis

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1955 GRADUATE PROGRAM FOUNDED: M.A. 1965
Ph.D. 1966

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 4 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 6 M.A., 2 Ph.D.
NOT IN RESIDENCE: 6 M.A., 4 Ph.D.

CHAIRPERSON: Marlyn L. Shelton

FOR PROGRAM DESCRIPTION WRITE TO: Graduate Adviser, Department of Geography, University of California, Davis, California 95616
Telephone (916) 752-0790
For catalog, admission forms, and description of financial aid, write to: Graduate Adviser, Department of Geography, University of California, Davis, California 95616
Telephone (916) 752-0790

PROGRAMS AND RESEARCH FACILITIES: The department offers programs for advanced study and research in physical, cultural/historical, agricultural, urban, and regional geography. Programs are individually designed to address student interests, but each program includes a core of common courses and seminars. The graduate program emphasizes the acquisition of analytical skills, knowledge of contemporary theoretical perspectives, and the execution of original research.

Faculty research programs in physical geography emphasize arctic and alpine environments, Quaternary studies, modeling energy and moisture systems, drought severity and recurrence, land use and water resource relationships, plant geography, and vegetation change. This research benefits from faculty contacts with the White Mountain Research Station, the University of California Water Resources Center, federal and state agencies in Sacramento, and other natural science departments and programs on campus.

The emphasis in cultural/historical geography at Davis includes food use and avoidance, domestic animals and human culture, food habits and nutrition, community nutrition, pre-Columbian diffusion, resources and landscapes of the American Southwest, historical geography of California, and human impacts on vegetation. Faculty affiliations with the Agricultural History Center, the Center for Consumer Research, and the Institute of Ecology promote opportunities for broad interdisciplinary research on these topics.

The Central Valley of California is the major focus for research on agricultural systems and urban-social systems. This research emphasizes agricultural industrialization, change in agricultural systems, urban-rural social contrasts, and historic preservation. The Institute of Governmental Affairs, state agencies in Sacramento, and the strong tradition in agricultural and biological sciences on the Davis campus provide research support for these studies.

Faculty members have a wide range of regional interests, and foreign area research is encouraged. Faculty experience and expertise are particularly helpful in developing a regional specialization in Africa, the Middle East, India, Latin America, Western Europe, and the American West.

The department maintains modern cartographic, remote sensing, and computer facilities, and numerous climatic instruments. A wealth of library materials are available on the campus, in the State Library and other state agencies in Sacramento, and in the San Francisco Bay metropolitan area. The location of the Davis campus near two major urban centers, its proximity to the Pacific Coast and to the Sierra Nevada and Coast Ranges, its position in the Central Valley, and the Natural Land and Water Reserves System and field stations administered by the university provide unusual field opportunities. In addition, faculty cooperate in graduate instruction and research with numerous other departments, and they are affiliated with graduate groups in atmospheric science, earth sciences and resources, ecology, and nutrition.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The Davis campus operates on the quarter system (with two 6-week summer sessions rather than a summer quarter). Forms for admission may be obtained from the Graduate Adviser, Department of Geography, University of California, Davis, California 95616. Students with outstanding academic records may apply for graduate fellowships which pay nonresident fees and in 1983-84 paid a stipend of $4200. Application forms for fellowships are included with the admission application. Teaching assistantships are available on a competitive basis. Stipends in 1983-84 were $2433 per quarter, plus the possible remission of nonresident fees. Applications for teaching assistantships may be requested from the Graduate Adviser, Department of Geography. All applicants for admission and awards must supply GRE Aptitude Test scores and three letters of recommendation. Students from non-English-speaking countries must submit TOEFL scores. Application deadlines are January 15 for admission/fellowship and February 1 for admission/teaching assistantships.

In the M.A. program, students are expected to develop professional competence in a topical specialization and an appreciation for the relationships among the subfields of the discipline. The M.A. program calls for completion of 30 quarter units of course work and a thesis, or 36 units of course work and a comprehensive examination.

The Ph.D. program provides students who have demonstrated distinguished research ability in an M.A. program the opportunity to develop refined skills in synthesis and analysis of information. Ph.D. students are expected to be specialists in one topical subfield and in a region. In addition to course work and three seminars, a written comprehensive examination, an oral qualifying examination, and the Ph.D. dissertation are required. Also, proficiency must be demonstrated in either two foreign languages or one language and quantitative methods.

STAFF:

Conrad J. Bahre, Ph.D., UC, Riverside, 1974, Associate Professor—cultural, plant geography, cartography/remote sensing, Latin America, arid lands of America

Dennis J. Dingemans, Ph.D., UC, Berkeley, 1975, Associate Professor—urban, social, economic, Soviet Union

Deborah L. Elliot-Fisk, Ph.D., Colorado, 1979, Assistant Professor—biogeography, arctic/alpine and coastal environments of North America, Quaternary

Howard F. Gregor, Ph.D., UCLA, 1950, Professor—economic, agricultural, North America, California

Louis E. Grivetti, Ph.D., UC, Davis, 1976, Associate Professor—cultural, food and nutrition, Middle East, Africa

Stephen C. Jett, Ph.D., Johns Hopkins, 1964, Professor—cultural, conservation, Native American cultures, southwestern United States

Marlyn L. Shelton, Ph.D., Southern Illinois, 1973, Associate Professor and Chairperson—climatology, water resources, physical systems

Frederick J. Simoons, Ph.D., UC, Berkeley, 1956, Professor—cultural, food habits, domestication, South Asia, Africa

Kenneth Thompson, Ph.D., Northwestern, 1955, Professor—historical, political, perception, California, Western Europe

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

Barringer, Glen Lewis. "Geomorphic Aspects of an Anthropogenic Landform: The Hill-Forte of Great Britain," 1982.

Bayliss, Christopher John. "Foreign and Non-Local Ownership of Land in the Napa Valley of California: A Study of the Location Pattern of Owners and Owned Land in 1981," 1982.

Kealey, Paul D. "Cultural Regionalism and Nation-Building in Belize," 1982.

Rider, Linda J. "Rural Industrialization and Dietary Habits in County Mayo, Ireland," 1982.

University of California, Los Angeles

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1915 GRADUATE PROGRAM FOUNDED: 1934

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 3 M.A., 7 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 34 M.A. 27 Ph.D.
NOT IN RESIDENCE: 4 M.A. 10 Ph.D.

CHAIR: Charles F. Bennett

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Advisor, Department of Geography, University of California, Los Angeles, California 90024
Telephone (213) 825-4655 or 825-1071

PROGRAMS AND RESEARCH FACILITIES: The large staff of the Department covers major research areas in geography. The fields of geomorphology, climatology, biogeography, ecosystem analysis and conservation, cultural geography, urban geography, cartography, and regional geography receive special emphasis. Contributing strength to the departmental offerings are many distinguished departments in cognate disciplines in which students are encouraged to do part of their work, and area studies programs embracing most parts of the world.

Laboratories are maintained for work in geomorphology, climatology, biogeography, cartography, remote sensing, and quantitative methods. The Campus Computing Network's IBM 3033 has terminals in the Department.

A thesis is a part of the M.A. program for continuing students. Emphasis is placed on the Ph.D. degree. At least one research tool is required for graduate study, subject to approval by the graduate student's committee.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: UCLA operates on a quarter system; students may enter in the Fall, Winter, and Spring quarters. Students are selected for admission to the graduate program on the basis of a completed B.A. in Geography or an allied field, a high grade point average, the GRE Aptitude Test, and three letters of recommendation. The M.A. is a prerequisite to the Ph.D. degree. University fellowships and teaching assistantships are available on a competitive basis. Application deadline for admission, fellowships, and assistantships: December 30 for following Fall Quarter.

STAFF:

Susan W. Beatty, Ph.D., Cornell, 1981, Assistant Professor—plant ecology, biogeography, soils

Charles F. Bennett, Ph.D., UCLA, 1959, Professor and Chair—biogeography (especially human influences on ecosystems), Latin America, humid tropics, conservation, Iberia

Rainer Berger, Ph.D., Illinois, 1960, Professor—scientific dating methods in environmental sciences and archeology, physical geography, geophysics

William A. V. Clark, Ph.D., Illinois, 1964, Professor—urban, quantitative analysis

Gary S. Dunbar, Ph.D., Louisiana State, 1956, Professor—history of geography, history of travel and discovery, historical, cultural

J. Nicholas Entrikin, Ph.D., Wisconsin-Madison, 1975, Associate Professor—urban, geographic thought

Gerry A. Hale, Ph.D., UCLA, 1966, Associate Professor—sociocultural geography, especially capitalism, inequality and hegemony in the modern world, Northeast Africa, Middle East

James Johnson, Ph.D., Michigan State, 1980, Assistant Professor—social geography of the inner city, Black migration, energy policy and planning

Huey Louis Kostanick, Ph.D., Clark, 1948, Professor—political, Europe and Soviet Union, special interests: world problem areas and demographic migrations and changes in Eastern Europe and the Soviet Union

Richard F. Logan, Ph.D., Harvard, 1949, Professor—geography of arid lands, field techniques, California, Southern Africa

Tom L. McKnight, Ph.D., Wisconsin, 1955, Professor—North America, Australia and the Southwest Pacific, cultural zoogeography, conservation

Robert McMaster, Ph.D., Kansas, 1983, Assistant Professor—cartography, computer graphics, remote sensing

Howard J. Nelson, Ph.D., Chicago, 1949, Professor—metropolitan Los Angeles, urban

Antony R. Orme, Ph.D., Birmingham, 1961, Professor—geomorphology, environmental systems and planning, Quaternary studies, western North America, Southern Africa, Ireland

Christopher L. Salter, Ph.D., UC, Berkeley, 1970, Associate Professor—cultural geography with a regional focus on China, field analysis in cultural geography, landscape in literature and landscape aesthetics

Jonathan D. Sauer, Ph.D., Missouri Botanical Garden and Washington University, St. Louis, 1950, Professor—plant geography, plant migration, historical geography of crops and weeds, tropical coastal and island vegetation

Allen Scott, Ph.D., Northwestern, 1965, Professor—economic geography, industrial location, philosophy of geography, urban

Susan J. Smith, Ph.D., Oxford, 1982, Visiting Assistant Professor—social geography

Werner H. Terjung, Ph.D., UCLA, 1966, Professor—climatology, especially exchanges of energy, mass and momentum, and process-response systems in physical geography

Norman J.W. Thrower, Ph.D., Wisconsin, 1958, Professor—history of cartography, cartography (especially thematic mapping), remote sensing (especially land use mapping from hyper-altitude imagery), Western Europe

Stanley W. Trimble, Ph.D., Georgia, 1973, Associate Professor—conservation, hydrology, fluvial geomorphology, research techniques

Hartmut Walter, Ph.D., Bonn, 1967, Professor—biogeography, experimental conservation, zoogeography, Mediterranean-type ecosystems, Africa, Europe, Middle East

Frank Weirich, Ph.D., Toronto, 1982, Assistant Professor—physical, geomorphology

Walter E. Westman, Ph.D., Cornell, 1971, Professor—plant ecology, nutrient cycling, environmental impact analysis, water quality management, statistical methods, Australia, California

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Band, Lawrence E. "Measurement and Simulation of Hillslope Development," 1983. Mf., University Microfilms.

Brown, Amalie J. "Spatial and Temporal Relationships on Ventura County Beaches, California," 1983. Mf., University Microfilms.

Gordon, Roni E. "Measures of Cognitive Distance at the Metropolitan Scale," 1983. Mf., University Microfilms.

Hoffman, Peter. "The Internal Structure of Mexican Border Cities," 1983. Mf., University Microfilms.

Laity, Julie. "Sapping Processes and the Development of Theatre-Headed Valleys on the Colorado Plateau (with a Discussion of Martian Valleys)," 1982. Mf., University Microfilms.

Loeher, Larry. "Fire as a Natural Hazard: Santa Monica Mountains, California," 1983. Mf., University Microfilms.

Malanson, George P. "A Model of Post-Fire Succession in Californian Coastal Sage Scrub," 1983. Mf., University Microfilms.

Master's:

Coon, Susan. "Distribution of Grasshoppers (*Orthoptera: Acrididae*) along an Altitudinal Gradient in the San Jacinto Mountains, California," 1983.

Mearns, Linda O. "Simulation of the Effect of Climatic Variability on Wheat Yield in Australia," 1982.

University of California, Riverside

DEPARTMENT OF EARTH SCIENCES

DATE FOUNDED: 1954 GRADUATE PROGRAM FOUNDED: 1962

DEGREES OFFERED: M.A., M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 3 Masters, 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 17 Masters, 11 Ph.D.
NOT IN RESIDENCE: 1 Masters, 1 Ph.D.

CHAIRMAN: Homer Aschmann

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Homer Aschmann, Department of Earth Sciences, University of California, Riverside, California 92521
Telephone (714) 787-3415 or 3435

The Department of Earth Sciences offers both undergraduate and graduate degrees in geography, geology, and geophysics. The following material describes the program in geography.

PROGRAMS AND RESEARCH FACILITIES: Both the M.A. and M.S. degrees are offered. The M.A. is for students interested in teaching or in pursuing a further degree. It requires satisfactory completion of 36 quarter units of course work and a comprehensive examination. The M.S. is for students interested in applied geography. Its requirements include a thesis.

Candidates for the Ph.D. degree are expected to show basic competence in both physical and cultural geography, and the history and methodology of the discipline. Research problems in Latin America, arid lands, and climatology are favored by the location of the campus as well as the interests of the staff. Recently emphasis has been placed on geographic applications of remotely sensed imagery and automated cartography, supported by a large and diversified collection of images gathered from aircraft and spacecraft.

A well-equipped cartographic laboratory is present in Department quarters, as well as desk and shelf space for all graduate students. The University Library contains a map library which is a depository of the Army Map Service, and subscribes to several hundred periodicals in geography and supporting fields. The complex regional character of Southern California offers many field situations of interest to students of both cultural and physical geography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of California is on a quarter calendar, although a summer session rather than summer quarter is offered at present. Admission based on previous course work, experience and references. Positions are available to graduate students as Teaching or Research Assistants. Fellowships are available to especially well-qualifed applicants.

GEOGRAPHY STAFF:

Homer Aschmann, Ph.D., UC, Berkeley, 1954, Professor—cultural, Latin America, arid lands

Carl Hansen, Ph.D., Wisconsin, 1966, Associate Professor—geomorphology, Africa, arid lands

Claude Johnson, M.S., UC, Riverside, 1968, Lecturer—remote sensing, automated cartography, agricultural geography

Stephen McRae, Ph.D., Cornell, 1979, Assistant Professor—geographic information systems, environmental planning and impact analysis

Richard Minnich, Ph.D., UCLA, 1978, Assistant Professor—remote sensing, plant geography, climatology

Robert Pease, Ph.D., UCLA, 1964, Professor—physical, California, cartography, urban climatology

Paul Wright, Ph.D., Hawaii, 1979, Lecturer—urban/economic geography, locational analysis, demography

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Milbauer, John A. "The Historical Geography of the Silver City Mining Region of New Mexico," 1983.* Mf., University Microfilms.

Master's:

Dulaney, Richard A. "Lymphoma Mortality and Climate: An Environmental Epidemiologic Study," 1983.*

Shockley, Jo Lynn. "A Land Suitability for Dairy Operations in the Chino and Hinkley-Barstow, California Areas: A Cartographic Modeling Approach," 1982.*

University of California, Santa Barbara

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1975 GRADUATE PROGRAM FOUNDED: 1975

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 23 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 32 M.A., 28 Ph.D.

CHAIRMAN: Reginald G. Golledge

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Teresa Everett, Graduate Coordinator, Department of Geography, University of California, Santa Barbara, California 93106
Telephone (805) 961-3663

PROGRAMS AND RESEARCH FACILITIES: The department offers specialized graduate training in water resources, vegetation resources, spatial behavior, marine resources, urban and regional modelling, cartography, remote sensing, and quantitative analysis. All graduate students are expected to gain a working knowledge of at least one major computer programming language.

Research facilities include a remote sensing laboratory which contains specialized equipment and a well-equipped cartography laboratory. The campus library with over a million volumes maintains a map library with close to 170,000 sheets of maps and 118,000 items of imagery. The campus computer center houses an Itel AS-6 and a PDP 11/70 which provides interactive Basic. The Computer Systems Laboratory has a VAX 11/780, PDP 11/45 and numerous peripherals. It is used for much Geography research and has over $500,000 of Geography equipment. The location of the campus provides easy access to a wide diversity of environments including the Pacific Ocean marine environment, the agricultural environment of the Central Valley, and the Los Angeles metropolitan region.

The Master's Program offers two plans: 1) 34 quarter units of coursework and a thesis; or 2) 46 quarter units of coursework and a comprehensive examination. Coursework outside the department is actively encouraged where it leads to a stronger program and such courses may account for up to one third of the credits necessary for completion of the degree.

The Ph.D. program is designed around five systematic specialties, (Area A) and three techniques (Area B). The systematic areas (Area A) are Water Resource Geography,Vegetation Resource Geography, Geographical Behavior Systems, Marine Resource Geography, and Urban and Regional Modelling. In addition all students are expected to develop great depth in one or more skills drawn from the following techniques (Area B): mathematical, quantitative and computer analysis; computer cartography and geographical information systems; and remote sensing. A variety of programs can be generated based on selections of major and minor emphases from Areas A and B.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: UCSB operates on the quarter system and incoming students may enter at the beginning of any quarter (except summer). Students applying for entrance to the program should have a demonstrated capability in Geography or other appropriate fields, have acquired a high grade-point average (particularly during the last two years), and should submit both their verbal and quantitative GRE scores upon formal application. The department has a number of teaching assistantships and research assistantships available and students may also apply for University fellowships.

STAFF:

Barbara P. Buttenfield, Ph.D., Washington, 1983, Assistant Professor—computer cartography, behavioral geography

Richard L. Church, Ph.D., Johns Hopkins, 1974, Professor—planning and environmental location/allocation modelling, locating and planning public facilities, water resources planning, operations research methods

Helen Couclelis, Ph.D., Cambridge, 1977, Assistant Professor—urban and regional theory and modelling, planning, philosophy of science

Frank Davis, Ph.D., Johns Hopkins, 1982, Assistant Professor—biogeography, natural plant communities, paleoecology, aquatic plant ecology

Jeffrey C. Dozier, Ph.D., Michigan, 1973, Associate Professor—snow hydrology, energy balance climatology, remote sensing, computational methods

John E. Estes, Ph.D., UCLA, 1969, Professor—remote sensing (emphasizing sensor systems, land use study, and regional resource base determination and evaluation)

Reginald G. Golledge, Ph.D., Iowa, 1966, Professor and Chairman—urban geography, behavioral geography, spatial learning theory, subjective distance, spatial modelling

Joel Michaelsen, Ph.D., UC, Berkeley, 1981, Assistant Professor—climatology/metiorology, marine resources

Donna J. Peuquet, Ph.D., SUNY Buffalo, 1977, Assistant Research Geographer—geo-based information systems

David S. Simonett, Ph.D., Sydney, 1954, Professor and Dean of the Graduate Division—remote sensing, soils, agricultural geography

Raymond C. Smith, Ph.D., Stanford, 1961, Professor—marine resources, physical oceanography, remote sensing of the oceans

Terence R. Smith, Ph.D., Johns Hopkins, 1971, Associate Professor—individual and aggregate decision-making and the application of the methods of artificial intelligence models to such problems

Waldo R. Tobler, Ph.D., Washington, 1961, Professor and Member, National Academy of Sciences—cartography, location theory, dynamics of geographical change, geometry of spatial relations, machine processing of geographical data

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

Almanza, Edward. "Landsat Analysis of Phytoplankton Patchiness and Seasonality in Mono Lake, California," 1983.

Bertke, Susan. "Fundamental Concepts of Remote Sensing," 1982.

Chen, Zitan. "Spatial Filtering of Polygon Data," 1982.

Ezra, Elaine. "The Feasibility of Thermal Inertia Mapping for Detection of Perched Water Tables in Semi-Arid Irrigated Agricultural Lands," 1982.

Foschi, Patricia. "Considerations and Problems in Designing a Geocoded Database System for a Microcomputer," 1983.

Graham, Nicholas. "A Combined Algorithm for Sample Design and Interpolation," 1982.

Johnson, Lee. "Atmospheric Effects on Satellite Augmentation of the USDA June Enumerative Survey: A Radar/Landsat Comparison," 1982.

Lees, Robert. "The Use of Soil Texture and Field Capacity to Normalize Microwave Soil Moisture Measurements: Some Problems," 1982.

Lehman, Paul. "The Status and Distribution of the Birds of Santa Barbara County, California," 1982.

Minor, Timothy. "Seasonal Comparison of HCMM Data for the Detection of Soil Moisture Variability," 1982.

Moran, Mary Susan. "Modelling Timber Suitability Class and Site Index through the Use of Digital Terrain Tapes and Soil Maps," 1982.

Reeves, Richard. "Development of an Integrated Hazardous Transport Management Model (HTMM)," 1982.

Sailer, Charlene. "The Development and Implementation of Remote Sensing," 1982.

Stewart, Brad. "Sensitivity and Significance of Turbulent Energy Exchange over an Alpine Snow Surface," 1982.

Tinney, Larry. "Towards an Improved Understanding of the Image Interpretation Process," 1983.

Witebsky, Ellen. "Online Bibliographic Information Retrieval for Geographic Research: Search Planning, Problems, and Satisfaction," 1982.

Woodcock, Curtis. "Reducing the Influence of Topography on the Classification of Remotely Sensed Data," 1982.

Yego, Joel. "The Suitability of Landsat Data to Map and Monitor Soil Erosion Hazards in Semi-Arid Lands: A Case Study of Central Kitui, Kenya," 1982.

Zhang, Xue-yun. "A Model for Microwave Emission of a Snowpack," 1982.

Chicago State University

GEOGRAPHY DEPARTMENT

DATE FOUNDED: 1970 GRADUATE PROGRAM FOUNDED: 1958

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 6
NOT IN RESIDENCE: 24

CHAIRMAN: Irving Cutler

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. G. Munir Ahmed, Chicago State University, Ninety-Fifth Street at King Drive, Chicago, Illinois 60628
Telephone (312) 995-2188

PROGRAMS AND RESEARCH FACILITIES: The flexible M.A. program in geography is designed for students interested in teaching, government, private employment, or further research. Half of the necessary 30 semester hours constitutes a required core program. The other half (5 courses) consists of electives selected from the present offerings of over 30 graduate courses in geography. An M.A. in geography is also offered with a concentration in urban geographic studies. There are no language requirements. Two seminar papers are required in lieu of a thesis and a final comprehensive examination is given before graduation. Work can be pursued either in the day or evening programs or in both.

The library and laboratory facilities are enhanced by the vast resources of the Chicago Metropolitan Area, which also serves as a source of extensive and varied urban field work opportunities. In 1972 the university occupied a completely new $100,000,000 campus containing modern departmental classrooms, laboratories, reading room, and map library.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Admission requirements: (1) a Bachelor's degree with a grade average of B or better although promising students may be admitted conditionally with a slightly lower average and (2) fifteen hours of undergraduate work in geography, although conditional admission is sometimes possible with fewer hours. The school is on the trimester system and has an extensive system of scholarships, assistantships, and loan and work-study programs.

STAFF:

G. Munir Ahmed, Ph.D., Chicago, 1956, Professor—economic, Asia, Middle East, political

Fredrick Blum, M.A., Chicago, 1961, Associate Professor—urban, planning, historical, cultural

Irving Cutler, Ph.D., Northwestern, 1964, Professor—transportation, industrial, urban, Anglo-America

John Muhr, M.A., Chicago State, 1975, Assistant Professor—cartography, measurement, computer, Africa

Herbert L. Rau, Jr., Ph.D., Northwestern, 1958, Professor—Latin America, regional analysis, physical, climatology, conservation

Irvin Roth, Ph.D., Syracuse, 1968, Professor—economic, industrial, planning, teaching of geography

University of Chicago

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1903 GRADUATE PROGRAM FOUNDED: 1903

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 5 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 6 Masters 11 Ph.D.
NOT IN RESIDENCE: 6 Masters 22 Ph.D.

CHAIRMAN: Norton Ginsburg

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Secretary, Department of Geography, University of Chicago, 5828 South University Avenue, Chicago, Illinois 60637
Telephone (312) 962-8300

PROGRAMS AND RESEARCH FACILITIES: Graduate programs in Geography at the University of Chicago at both the Master's and Doctorate levels are tailored to the needs and experience of the individual student. At the Master's level require-

50

ments include an orientation course and additional courses in Geography chosen in consultation with the faculty. Doctoral course requirements include the same orientation course as well as a number of other courses in Geography also chosen in consultation with the faculty. At the doctoral level the development of research capabilities in one or more of the following fields is emphasized: cultural geography, historical geography, resources management, political geography, urban geography, environmental geomorphology, Pleistocene ecology, and regional specializations in East Asia, Southeast Asia, East Europe and the Soviet Union, Western Europe, and the Middle East. Each of the regional specializations necessitates study of the relevant cultures and languages. Doctoral dissertations are published in the Department's *Research Papers* which are widely distributed to research libraries in North America and abroad.[1]

[1] In 1982-83, the following *Research Papers* were published:
No. 199/200: Arthur J. Stevenson, *The New York-Newark Air Freight System.*
No. 202: Gundars Rudzitis, *Residential Location Determinants of the Older Population.*
No. 205: Kenneth E. Foote, *Color in Public Spaces: Toward a Communication-Based Theory of the Urban Built Environment.*
No. 207/8: Paul Wheatley, *Nāgara and Commandery: Origins of the Southeast Asian Urban Traditions.*

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Chicago is on a four-quarter system. Since the orientation course for incoming graduate students takes place in the autumn, new graduate students are advised to initiate their work in that quarter, but it is not necessary that they do so.

Applications for admission should be made to the Office of Admissions and Aid, University of Chicago, 5801 South Ellis Avenue, Chicago, Illinois 60637, on forms obtained from that office. Although applications for admission can be considered at any time, students seeking financial aid should ordinarily file an application for admission and aid before January 15 of the year in which they hope to begin graduate work. Students having questions about opportunities for studies related to their special interests are invited to write to the chairman.

Scholarship and fellowship aid is available on a competitive basis. The Department has no teaching assistantships, but research assistantships are available.

STAFF:

Karl W. Butzer, D.Sc., Bonn, 1957, Henry Schultz Professor of Environmental Archeology—cultural ecology, applied geomorphology

Gordon L. Clark, Ph.D., McMaster, 1978, Associate Professor—regional and economic growth, urban and political economy

Michael P. Conzen, Ph.D., Wisconsin, 1972, Associate Professor—historical, urban, North America

Norton Ginsburg, Ph.D., Chicago, 1949, Professor—political, marine affairs, economic development, urban, East and Southeast Asia (on leave 1983)

Chauncy D. Harris, Ph.D., Chicago, 1940, D. Litt., Oxford, 1973, Samuel N. Harper Distinguished Service Professor—Soviet Union, bibliography of geography, urban, economic

James T. Meyer, M.S., Pennsylvania State, 1977, Instructor—urban social geography, research design and methodology

Marvin W. Mikesell, Ph.D., California, Berkeley, 1959, Professor—cultural conflict, Middle East

William D. Pattison, Ph.D., Chicago, 1957, Associate Professor—history of geography, geography in education

James L. Wescoat, Jr., Ph.D., Chicago, 1983, Instructor—water resources, environmental planning and design

Paul Wheatley, Ph.D., London, 1958, D. Lit., London, 1975, Irving B. Harris Professor, Geography and Social Thought—comparative urbanism

ASSOCIATES:

Doris Holleb, M.A., Harvard, 1947, Professorial Lecturer—urban planning

Phillip D. Phillips, Ph.D., Minnesota, 1973, Lecturer—industrial location

Gerson M. Rosenthal, Jr., Ph.D. (Zoology), California, Berkeley, 1954, Associate Professor, Biology (the College)—ecological systems

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Foote, Kenneth E. "Color in Public Spaces: Toward a Communication-Based Theory of the Urban Built Environment," 1982.

Wescoat, James Lallou, Jr. "Integrated Water Development: Water Use and Conservation Practice in Western Colorado," 1983.

Master's:

Anderson, Scott D. "The Emptiness of Amazonia," 1982.

Dunning, Nicholas P. "Maritime Boundary Delimitation in the Gulf of Maine," 1983.

Ellis, Roberta F. "The Coastal Zone Management Act and Offshore Energy Development: The Federal/State Partnership," 1983.

Monbrod, Timothy P. "The Problem of Soviet Agriculture: Constraints and Potentialities," 1982.

Pearson, Christopher P. "The Ku Klux Klan in Alabama, 1867-1872: Spatial Variation in the Intensity of Racial Violence," 1983.

University of Cincinnati

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1907 GRADUATE PROGRAM FOUNDED: 1931

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 7 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 11 M.A. 7 Ph.D.
NOT IN RESIDENCE: 11 M.A. 8 Ph.D.

HEAD: K. Bruce Ryan

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director of Graduate Studies in Geography, Department of Geography, University of Cincinnati, Cincinnati, Ohio 45221
Telephone (513) 475-3421

PROGRAMS AND RESEARCH FACILITIES: The Department continues its long tradition of urban research and Community involvement. Within that tradition, four applied programs are offered—locational analysis (geared to site selection and market research for both the public and private sectors); cultural-historical geography (population dynamics and community development); environmental quality and management (including government regulations); and regional development (mainly in the Third World).

Over the years, students of the Department have found employment in planning and development (30 percent of those graduating), education (35%), public administration (7%), and business (28%). Work experience and training in marketable skills are integral parts of the graduate program. In fact, America's first "co-op" system of higher education began in Cincinnati in 1906, and continues to make the city a living laboratory for studies of all kinds. There is also a well-established three-year program leading jointly to the Masters degree in Geography and the Master of Community Planning.

Six million books are available in the twenty research collections that comprise the Cincinnati Libraries Consortium, among them the Archival Library of the AAG. Computer facilities (fifth largest in the U.S.) include AMDAHL 470/V6-II, IBM 1401, and an experimental hybrid system. The Department's quarters in Swift Hall have just been modernized at a cost of $2.7 million, and now contain advanced computer graphics capabilities including a Tektronix Graphic Computing System, digital plotter and graphics tablet.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Quarter System. Application for admission to the Geography program of the Division of Graduate Studies, or for graduate aid, obtained by writing to the Department of Geography, University of Cincinnati, Cincinnati, Ohio 45221 for application form and a current Graduate School Bulletin. GRE scores are required.

Financial Aid includes Graduate Assistantships, Research Assistantships, Tuition Scholarships, and University Internships.

STAFF:

Robert B. McNee, Ph.D., Syracuse, 1953, Professor—theory of urban and economic geography, multinationals

Jonathan S. Mesinger, Ph.D., Syracuse, 1977, Assistant Professor—cultural landscape, historical, historic preservation, urban social

Wolf Roder, Ph.D., Chicago, 1965, Professor—resources and economic development, field methods, statistical methods, Africa

Kenneth Bruce Ryan, Ph.D., Australian National, 1966, Professor—rural settlement policy, architectural diffusion, Australia

Roger M. Selya, Ph.D., Minnesota, 1971, Associate Professor—economic development (especially East Asia), population and health, history and philosophy of geography

Robert B. South, Ph.D., Maryland, 1972, Associate Professor—economic, Latin America

Howard A. Stafford, Ph.D., Iowa, 1960, Professor—industrial location, economic, urban

Laurence G. Wolf, Ph.D., Syracuse, 1966, Associate Professor—cartography, cultural, political, urban

ASSOCIATED FACULTY:

David Prosperi, Ph.D., Indiana, 1978, Assistant Professor of Planning—transportation, economic geography, quantitative methods

David P. Varady, Ph.D., Pennsylvania, Associate Professor of Planning—housing, urban residential mobility, social policy

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Goodrich, James A. "Predicting Toxic Waste Concentrations in Community Drinking Water Supplies from Upstream Industrial Discharges: A Vulnerability Analysis," 1983.

Miller, Glenn R. "Transportation and Urban Growth in Cincinnati, Ohio, 1788-1980," 1983.

Master's:

Cheng, Leey. "Evaluation Methods and Impacts of Modern Highway Development, A Study Case: The North-South Freeway in Taiwan," 1982.

Garchar, George R. "Volunteerism as Spatial Behavior," 1983.

Hillman, David G. "Measuring Change in the Locational Efficiency of the Urban Hospital, Cincinnati, Ohio 1965-1979," 1982.

Nathalang, Matrini. "Japanese Direct Investment in American Industry: A Geographical Perspective," 1982.

Clark University

GRADUATE SCHOOL OF GEOGRAPHY

DATE FOUNDED: 1887 GRADUATE PROGRAM FOUNDED: 1921

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 4 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 53 Ph.D.
NOT IN RESIDENCE: 3 M.A., 25 Ph.D.

DIRECTOR: B. L. Turner II

FOR FURTHER INFORMATION WRITE TO: Katherine A. Parella, Assistant to the Director, Graduate School of Geography, Clark University, Worcester, Massachusetts 01610
Telephone (617) 793-7337

PROGRAMS AND RESEARCH FACILITIES: The Graduate School of Geography at Clark provides institutional and programmatic alternatives to conventional North American doctoral programs. The School is central to a human-scale, private institution of 2,000 undergraduates and 350 graduate students. A liberal arts tradition is wedded to the University-College in which faculty, graduate students, and undergraduates engage in joint teaching and research and cross-disciplinary exchange. The School offers a comprehensive doctoral program designed for individual needs and for both academic and non-academic career objectives. Approximately half of recent graduates have careers outside academe.

Six major fields of study are emphasized: (1) *cultural geography and the humanities* has concentrations in cultural ecology, in city, space, and culture, and in cultural landscapes; (2) *environmental affairs/management* focuses on resource and technology assessment and impact; (3) *regional/international development/political economy* has components in area development and in Marxist analysis; (4) *urban/social/planning* specializes in economics, housing, and transportation; (5) *physical geography of human systems* concentrates on environmental issues related to human activity; and (6) *cartography* integrates conventional mapping, computer cartography, and remote sensing, and has special interests in environmental and development applications.

The School is active in both individual and group research. It plays a major role in the Center for Technology, Environment, and Development (CENTED), which provides an institutional framework at Clark for numerous interdisciplinary research groups, including Climate and Society, Regional Development, Energy, Technological Hazards, and International Development. Emphasis is placed on the Third World, particularly Africa and Latin America. The School is a critical element in the Program for Humanistic Studies, an interdisciplinary research and teaching program that developed the concept of the "cluster"—a group of parallel and overlapping courses in different fields taught concurrently on a single theme. In addition, three journals are associated with the School: *Economic Geography*, *Antipode*, and *Monadnock*.

Clark University has a 35-acre campus within Worcester—the heart of central Massachusetts. Nine other universities and colleges are located in the city, four of which form a consortium with Clark. The School is located in the new Academic Center. It houses a Cartographic Laboratory (including extensive drafting and darkroom facilities, instrumentation for remote sensing, and a micro-computer/digitizer system), an extensive Map Library that is a depository for federal agencies, the J.K. Wright Reading Room, a graduate student lounge, and office space for most graduate students. Special research collections are located in CENTED.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system with a summer session at end of spring semester. Three year residency required for Ph.D. (2 years for those entering with an M.A.). *Admission Requirements:* interests coincident with those of department; evidence of competence to pursue graduate work at the Ph.D. level; GRE scores required of U.S. and Canadian students; applicants from related fields will be considered; application deadline—February 15th. *Financial Aid* includes tuition fellowships, research and teaching assistantships.

FULL-TIME FACULTY:

Leonard Berry, Ph.D., Bristol, 1969, Professor of Geography, Provost and Vice President for Academic Affairs—applied geomorphology, East Africa

Martyn J. Bowden, Ph.D., UC, Berkeley, 1968, Professor of Geography—historical-cultural, humanistic studies, urban environmental cognition

Susan Hanson, Ph.D., Northwestern, 1973, Associate Professor of Geography—urban social geography, quantitative methods, travel-activities patterns

Douglas L. Johnson, Ph.D., Chicago, 1972, Associate Professor of Geography—cultural, landscape, economic development, arid lands

Kirsten Johnson, Ph.D., Clark, 1977, Assistant Professor of Geography—environmental management, cultural

Gerald J. Karaska, Ph.D., Pennsylvania State, 1962, Professor of Geography and Editor of Economic Geography—urban, economic, quantitative methods

Roger E. Kasperson, Ph.D., Chicago, 1966, Professor of Geography and Government—urban-political decision making, nuclear risk assessment.

Robert W. Kates, Ph.D., Chicago, 1962, Professor of Geography and Research Professor in the Center for Technology, Environment and Development

Duane F. Knos, Ph.D., Iowa, 1956, Professor of Geography—geography and its teaching, urban, simulation as a learning process

William A. Koelsch, Ph.D., Chicago, 1966, Professor of History and Geography—history of geography

Laurence A. Lewis, Ph.D., Northwestern, 1965, Associate Professor of Geography—geomorphology, slope processes, food production, soil erosion

David C. Major, Ph.D., Harvard, 1966, Research Professor in the Center for Technology, Environment and Development—water resource economics

Sharon Nicholson, Ph.D., Wisconsin, 1976, Assistant Professor of Geography—climatology, arid lands

J. Richard Peet, Ph.D., UC, Berkeley, 1968, Professor—social, economic, community planning, Marxist geography

Harry E. Schwarz, B.C.E., George Washington, 1964, Professor of Environmental Affairs—water resource planning and water reuse

Harry Steward, Ph.D., Wales (Swansea), 1972, Associate Professor of Geography—cartography, remote sensing imagery

B. L. Turner II, Ph.D., Wisconsin, 1974, Associate Professor of Geography, Director, Graduate School of Geography—cultural, ecology, agriculture, tropics, prehistory

ADJUNCT FACULTY:

Dennis W. Ducsik, Ph.D., M.I.T., 1976, Assistant Professor of Science, Technology and Society, Adjunct in Geography

AFFILIATE FACULTY:

Anne Buttimer, Ph.D., Washington, 1965, Affiliate Professor of Geography—social, urban, social space, philosophy of geography

Saul B. Cohen, Ph.D., Harvard, 1955, President of Queens College, CUNY, Research Professor of Geography—political, educational networks

Daniel M. Dworkin, Ph.D., Clark, 1974, Affiliate Associate Professor of Geography—water resources, international development

Philip O'Keefe, Ph.D., London, 1973, Affiliate Associate Professor of Geography—resource economics, natural hazards, underdeveloped countries, Marxist resource theory

EMERITUS:

Raymond E. Murphy, Ph.D., Professor of Geography Emeritus

STAFF:

Timothy Fast, Cartographer and Laboratory Manager
Katherine A. Parella, Assistant to the Director
Charlotte Slocum, Map and Geography Librarian

TITLES OF DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Pijawka, K. David. "A Comparative Study of the Regulation of Pesticide Hazards in Canada and the United States," 1983.

University of Colorado

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1927 GRADUATE PROGRAM FOUNDED: 1930

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 10 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 44 M.A. 25 Ph.D.
NOT IN RESIDENCE: 2 M.A. 3 Ph.D.

CHAIRMAN: A. David Hill

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Secretary, Department of Geography, Campus Box 260, University of Colorado, Boulder, Colorado 80309
Telephone (303) 492-8311

PROGRAMS AND RESEARCH FACILITIES: Faculty members based on the University's campuses in Boulder, Colorado Springs, and Denver jointly form the Geography Graduate Faculty. The basic purpose of the program is the training of scholars who will continue to produce knowledge and of professionals with outstanding promise for success in the public and private sectors. The program offers advanced training, including formal course instruction, research guidance, and other professional experiences, in both physical and human geography. Research strengths are in arctic and alpine processes, snow and ice studies, geomorphology, climatology, biogeography, conservation, cultural, social, urban, population, political, cartography, and geographic education. Although students' programs are highly individualized, each student must take work in both human and physical geography, and demonstrate a command of the history and nature of the discipline and of a variety of modes of analysis and of geographic skills.

The Department maintains teaching and research relationships with the Institutes of Behavioral Science (IBS) and of Arctic and Alpine Research (INSTAAR), the Cooperative Institute for Research in Environmental Sciences (CIRES), the National Center for Atmospheric Research (NCAR), the College of Design and Planning in Boulder, and the Centers for Urban Affairs and Urban Transportation Studies in Denver. A host of other federal, state, and metropolitan agencies in the vicinity offer opportunities to the student.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester plan. Prospective students should have interests coincident with those of the faculty and strong preparation in the physical or social sciences, but not necessarily in geography. In addition to department approval, an applicant for admission as a regular degree student must (1) hold a baccalaureate degree from a college or university of recognized standing for M.A. admission, and a Master's degree for Ph.D. admission, or have comparable preparation to enter graduate study; (2)

show promise of ability to pursue satisfactorily advanced study and research, and have at least a 2.75 undergraduate GPA on a 4.0 system. In addition, strong GRE verbal, quantitative, and analytical scores are required.

Financial aid may be available in the form of Teaching and Research Assistantships and University Fellowships. The application deadline for Fellowships is January 15, and for Teaching or Research Assistantships it is February 15.

FACULTY:

University of Colorado at Boulder:

Roger G. Barry, Ph.D., Southampton, 1965, Professor—climatology (synoptic, paleo-climatology), Arctic, snow and ice; Director, World Data Center-A for Glaciology/National Snow & Ice Center; CIRES

T. Nelson Caine, Ph.D., Australian National, 1966, Professor—geomorphology (alpine processes); Associate Director, INSTAAR

Kenneth A. Erickson, Ph.D., UC, Berkeley, 1965, Professor—cultural, cartography, U.S.S.R., conservation

David E. Greenland, Ph.D., Canterbury, 1971, Associate Professor—climatology (micro, applied, and air quality), environmental conservation; INSTAAR

Nicholas Helburn, Ph.D., Wisconsin, 1950, Professor—geographic education, agricultural, natural hazards, recreational

A. David Hill, Ph.D., Chicago, 1964, Professor—cultural, social, geographic education, Latin America, geographic thought

Jack D. Ives, Ph.D., McGill, 1956, Professor—geomorphology, geoecology, Arctic and Alpine environments

Andrew M. Kirby, Ph.D., Newcastle, 1978, Assistant Professor—political, urban, regional development, social and geographic theory

Alan M. MacEachren, Ph.D., Kansas, 1979, Assistant Professor—cartography, geographic information systems, geographic measurement, environmental cognition

Hazel A. Morrow-Jones, Ph.D., Ohio State, 1980, Assistant Professor—residential land use, population, regional development

Theodore C. Myers, M.A., History, M.A., Geography, Indiana, 1963, 1964, Assistant Professor—historical, political, Europe, North America

Risa I. Palm, Ph.D., Minnesota, 1972, Professor and Associate Dean, College of Arts and Sciences—urban, social, housing in American cities; natural hazards; IBS

Andrei Rogers, Ph.D., North Carolina, 1964, Professor and Director of Population Program, IBS—mathematical demography, migration, settlement, aging

Thomas T. Veblen, Ph.D., UC, Berkeley, 1975, Associate Professor—biogeography, environmental conservation, Latin America

Associated Faculty, University of Colorado at Boulder:

Robert H. Alexander, Professor Adjoint, U.S.G.S., IBS

Spenser W. Havlick, Contributing Member—Professor, College of Design and Planning, University of Colorado, Boulder

M. John Loeffler, Professor Emeritus

Uwe Radok, Professor Attendant Rank, CIRES

Harry van Loon, Professor Adjoint, National Center for Atmospheric Research
Gilbert F. White, Gustavson Professor Emeritus, IBS

University of Colorado at Colorado Springs: (Cragmor Road, Colorado Springs, Colorado 80907; 303-593-3478)

Jacquelyn L. Beyer, Ph.D., Chicago, 1957, Professor—resource management, geographic education, Africa, women's studies

Eve C. Gruntfest, Ph.D., Colorado, 1982, Assistant Professor—natural hazards, recreational geography, environmental perception

Thomas P. Huber, Ph.D., Colorado, 1980, Assistant Professor-geomorphology, cartography, remote sensing

Robert P. Larkin, Ph.D., Pennsylvania State, 1973, Professor—population, geographic education, energy resources

University of Colorado at Denver: (1100 14th Street, Denver, Colorado 80202; 303-629-2646)

Yuk Lee, Ph.D., Ohio State, 1970, Professor—mathematical, quantitative, urban retail location, China

C. Gilbert Schmidt, Ph.D., Washington, 1973, Associate Professor—location theory, urban and economic, regional development

Richard E. Stevens, Ph.D., Kansas, 1961, Professor—agricultural, Africa, cartography, air photo

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Regulska, Joanna M. "Women's Role in Metropolitan and Nonmetropolitan Migration Trends," 1982. Mf., University Microfilms.

Master's:

Colvill, Alan J. "Glacial Landforms at the Head of Frobisher Bay, Baffin Island, Canada," 1982.*

Dowdeswell, Julian A. "Debris Transport Paths and Sediment Flux through the Grinnel Ice Cap, Frobisher Bay, Baffin Island, NWT, Canada," 1982.*

Heede, Harald Richard. "A World Geography of Recoverable Carbon Resources in the Context of Possible Climatic Change," 1982.*

Hopper, D' Ann N. "Flood Mitigation Techniques and Implementation with Application to Red Canyon Draw, Canon City, Colorado," 1982.*

Kendrick, Victoria. "Residential Displacement in Metropolitan Denver, Colorado," 1982.*

Marston, Sallie A. "The Political Economy of the Earthquake Hazard in California," 1982.*

Scharfen, Gregory. "Snow Cover, Sea Ice, and Cloudiness Characteristics from Satellite Data," 1982.*

Shull, Gary A. "Residential Location and Decision-Making: A Content Analysis," 1982.*

Swithinbank, Andrew J. "Government-Aided Revitalization of Deteriorating Residential Areas: Egalitarian Planning or Regressive Redistribuion?" 1982.*

Yorty, Richard. "Trends in Particulate Air Pollution and Population Exposure to TSP in the Denver Metropolitan Area," 1982.*

Columbia University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1916　GRADUATE PROGRAM FOUNDED: 1920

DEGREES OFFERED: M.A., M.Phil., Ph.D.

GRANTED 7/1/82-6/30/83: 7 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 23 Masters 18 Ph.D.
NOT IN RESIDENCE: 7 Masters 13 Ph.D.

CHAIRMAN: Kempton E. Webb

FOR BULLETIN AND FURTHER INFORMATION WRITE TO: Professor Kempton E. Webb, 1028 International Affairs Building, Columbia University, 420 West 118th Street, New York, New York 10027
Telephone (212) 280-4641

PROGRAMS AND RESEARCH FACILITIES: The Department offers comprehensive and rigorous preparation for research and teaching in geography, with particular strength in the following areas: Economic and Urban Geography, Environmental Studies, Population, Resources, Remote Sensing, and Regional Specialization. The expanding opportunities for geographers in these and other areas make Columbia's resources especially attractive.

The Department is housed in a new building with special class, laboratory, seminar, and student-study facilities for geography. It shares in the resources and facilities of a great university and a great city. The Department has a close relationship with the Goddard Institute for Space Studies and its remote sensing facilities.

Requirements for the M.A. degree consist of eight one-term courses, certification of proficiency in quantitative methods, and the writing of a research paper.

Students preparing for the Ph.D. degree complete four additional terms of course work, fulfill the language requirement, if any, for their area of specialization, pass written and oral qualifying examinations in one major and two minor fields, and write and successfully defend a doctoral dissertation.

Majors offered: Environmental Geography (including Biogeography, Climatology, Conservation, Geomorphology, Hydrology, Oceanography, and Pedology); Social Geography (including Cultural Geography, Economic Geography, Location Theory and Regional Analysis, Medical Geography, Population Geography, and Urban Geography); Resources Geography (including Conservation Theory, Energy, Food Supply, and World Resources); and Regional Geography (including Latin America and the U.S.S.R.).

Minors offered: in any of the above fields and in research methods, such as remote sensing techniques, spatial analysis, or cartography, or in a cognate discipline.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Emphasis on Ph.D. degree, normally requiring 4 to 7 years. M.A. degree program also available, usually requiring 1 to 2 years. University operates on a semester system. A new part-time M.A. program has been added. *Admission Requirements:* A baccalaureate or master's degree including no less than three years of undergraduate liberal arts courses, of which two courses are in physical geography and two courses in human geography or the equivalent. The Department does not require an undergraduate major in geography. *Financial Aid:* A comprehensive program including fellowships, teaching and research assistantships, and loans.

Society of Woman Geographers Fellowship in Geography: One or more to women geography students; provides tuition, fees, and a stipend.

Fellowship application deadline is January 3.

STAFF:

Stephen R. Baker, M.D., Albert Einstein, 1968, Lecturer—medical geography

Robert A. Lewis, Ph.D., Washington, 1964, Professor—U.S.S.R., population

Sara L. McLafferty, Ph.D., Iowa, 1979, Assistant Professor—economic, public policy

Miklos Pinther, B.S., Columbia, 1967, Lecturer—cartography

Garry F. Rogers, Ph.D., Utah, 1980, Assistant Professor—plant ecology, physical geography

Theodore Shabad, Ph.D., Columbia, 1976, Lecturer—resources of the U.S.S.R.

Neil Smith, Ph.D., Johns Hopkins, 1982, Assistant Professor—urban, social, quantitative

Kempton E. Webb, Ph.D., Syracuse, 1958, Professor—Latin America, cultural, food supply, resources

Warren E. Yasso, Ph.D., Columbia, 1964, Associate Professor—geomorphology, oceanography

Leonard Zobler, Ph.D., Columbia, 195[illegible], Professor—resource use, soils, hydrology, conservation theory, land use

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Bury, Barbara. "The Human Ecology and Political Economy of Agricultural Production on the Ufipa Plateau, Tanzania: 1945-1981," 1983.

Master's:

Broe, Daniel M. "The Relation of Neighborhood Health Centers to the Reduction of Adverse Pregnancy Outcomes in Small Geographic Areas in the Bronx, New York, 1964-1981," 1983.

Cruickshanks, George D. "The Relation between Thermal Emissions and Spectral Reflectance of a Complex Vegetated Landscape from Landsat and HCMM Observations," 1983.

Fennell, Susan. "Ilorin, a Traditional 'Rejuvenated' City: Its Growth and Development since 1960," 1983.

Hall, Patricia E. "Periodic Markets as Rural Central Places: Insights from North-Central Singhbhum," 1983.

Rothberg, Debbi Lynn. "Aircraft Monitoring of Agricultural Crops in the Thermal Infrared: A Comparison of Corn and Soybean Canopy Response Patterns," 1983.

Siskind, Amy. "Rent Theory in Historical Perspective," 1982.

Steinberg, Joan. "Nonpoint Source Pollution of the Saw Mill River Watershed within the City of Yonkers," 1982.

University of Delaware

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1971

DEGREES OFFERED: M.A., M.S.; Ph.D. (Applied Sciences-Climatology)

GRANTED 7/1/82–6/30/83: 3 Masters

GRADUATE STUDENTS IN RESIDENCE: 14 Masters 1 Ph.D.
NOT IN RESIDENCE: 9 Masters

CHAIR: John R. Mather

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. John R. Mather, Chair, Department of Geography, University of Delaware, Newark, Delaware 19711
Telephone (302) 738-2294

PROGRAMS AND RESEARCH FACILITIES: The Graduate Program provides the opportunity for Masters and Doctoral students to interact frequently with a staff whose interests touch upon one of three particular themes—climatology, cartography, and urban landscapes. The climatology program emphasizes energy and water budgets and their application to environmental problems. The faculty's research interests include climatic modelling, human impact upon energy and moisture exchanges, climatic influences on socio-economic activity, and applied studies in agriculture, biogeography, and micro-climatology. The cartography program emphasizes landform mapping, map symbol perception, and computer-assisted production and design. The urban program focuses on historic development, spatial organization, and human behavior in urban landscapes. The study of migration and settlement, as well as cultural attitudes toward land and nature, serves as another focus. Interdisciplinary work with other departments and the Colleges of Agricultural Sciences and Marine Studies is encouraged. A University Center for Climatic Research has been established in the Department, which also houses the Office of the State Climatologist for Delaware. Facilities include instruments for microclimatic investigations and extensive library holdings in climatology. Ample time-sharing computing is supported by the University's Burroughs B7700 and Dec-10 mainframe computers and by four minicomputers (VAX 11/780s and PDP-11s) running the UNIX operating system. Departmental computing facilities include five intelligent color and b/w graphics terminals, plotters, digitizers, printers, and data terminals, as well as an IBM personal computer with high-resolution color graphics. A complete graphics reproduction facility is also available in the department. An interdisciplinary Ph.D. program in Applied Sciences-Climatology, which emphasizes the understanding, development, and use of analytical, numerical, and/or statistical analogues to climate and climatic processes, is also administered by the Department. *Publications in Climatology* are jointly published by the Center for Climatic Research and the Thornthwaite Laboratory of Climatology.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on a semester system. General admissions requirements are an undergraduate index of 2.5 or more and combined GRE scores of at least 1050; the Department will consider qualified applicants without previous background in geography, though additional preliminary work may be required. Financial aid is available through research assistantships to highly qualified applicants.

STAFF:

Edmunds V. Bunkse, Ph.D., UC, Berkeley, 1973, Associate Professor—cultural-historical, landscape aesthetics, urban, U.S.

Richard T. Field, M.S., Chicago, 1962, Lecturer—micro-climatology, energy budgeting in human and natural systems, ecology

Franklin E. Gossette, Ph.D., UCLA, 1980, Assistant Professor—urban, social, computer cartography, China

Laurence S. Kalkstein, Ph.D., Louisiana State, 1974, Associate Professor—biogeography, conservation, ecological problems, climatology

Vytautas Klemas, Ph.D., Technical University, Braunschweig, 1965, Professor (joint appointment with Marine Studies)—remote sensing, environmental monitoring, coastal resource management

John R. Mather, Ph.D., Johns Hopkins, 1951, Professor and Chairman, Director, Center for Climatic Research—applied climatology, meteorology, water resources

Thomas C. Meierding, Ph.D., Colorado, 1977, Assistant Professor—climatic geomorphology, cartography, air photo interpretation

Peter W. Rees, Ph.D., UC, Berkeley, 1971, Associate Professor and Associate Dean, College of Arts and Science—urban, historical-economic, Latin America

Yda Saueressig, Ph.D., Wisconsin-Madison, 1982, Assistant Professor—urban, historical, and regional geography of Europe and the United States; problems of Third World countries; environmental conservation

John H. Schuenemeyer, Ph.D., Georgia, 1975, Associate Professor (joint appointment with Mathematical Sciences)—multivariate and spatial analysis, partial differential equations

Roger S. Ulrich, Ph.D., Michigan, 1973, Associate Professor—behavioral, urban, visual landscapes, economic

Cort J. Willmott, Ph.D., UCLA, 1977, Associate Professor (joint appointment with Marine Studies)—climatology, quantitative methods

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Webster, Anne. "A Preliminary Evaluation of the Delaware Cloud-Seeding Project Using a Principal Components-Based Interpolation Model," 1982.

University of Denver

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1947

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 2 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 5 M.A. 4 Ph.D.
NOT IN RESIDENCE: 7 M.A. 2 Ph.D.

CHAIRPERSON: Laurance C. Herold

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Laurance C. Herold, Chairman, Department of Geography, University of Denver, Denver, Colorado 80208
Telephone (303) 753-2513

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography at the University of Denver offers graduate work in the following areas of concentration: geomorphology, urban and regional studies, and environmental studies. In each of these areas, stress is placed on interdisciplinary studies; the Department enjoys close working relations with other departments within the University. Cooperative programs of work-study can be arranged occasionally with local planning agencies, and there is opportunity for cooperative research in physical geography with locally based federal agencies.

The Department is housed in a group of offices, classrooms, and special purpose rooms in Pioneer Hall. Library and map resources include those of the Department, the University, and the Denver metropolitan area. The Department has a microcomputer with color graphic capability and a Numonics digitizer. Field work and in-service experiences are encouraged.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Denver operates on a quarter system.

Candidates for graduate degrees in the Department of Geography are required to take the Graduate Record Examination as part of their admission requirements. Among the criteria applied in determining eligibility for admission are an acceptable undergraduate scholastic record, satisfactory scores on the Aptitude Test for the Graduate Record Examination, and appropriate references.

Application for the admission to graduate study is advisable at least two quarters prior to the expected date of enrollment.

A limited number of University teaching and research assistantships as well as tuition scholarships are available. Assistantships carry a stipend with remission of tuition.

STAFF:

Joseph P. Beaton, Ph.D., UCLA, 1981, Assistant Professor—urban and economic geography

John E. Costa, Ph.D., Johns Hopkins, 1973, Associate Professor—fluvial geomorphology, environmental geology

Richard F. Hadley, M.A., Minnesota, 1950, Adjunct Professor—geomorphology, erosion and sedimentation, hydrology

Laurance C. Herold, Ph.D., Southampton, 1968, Associate Professor and Chairman—systematic specialization, cultural, regional, British Isles, American Southwest and Northern Mexico

David B. Longbrake, Ph.D., Iowa, 1972, Associate Professor—urban, urban and regional planning, land use and development, quantitative methods

Robert D. Rudd, Ph.D., Northwestern, 1953, Professor—physical, remote sensing, climatology

Terrence J. Toy, Ph.D., Denver, 1973, Associate Professor—climatic geomorphology, quantitative, hydrology

East Carolina University

DEPARTMENT OF GEOGRAPHY AND PLANNING

DATE FOUNDED: 1930 GRADUATE PROGRAM FOUNDED: 1964

DEGREES OFFERED: M.A., M.A.Ed.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 7
NOT IN RESIDENCE: 2

CHAIRMAN: Ennis L. Chestang

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Graduate Advisor, Department of Geography and Planning, East Carolina University, Greenville, North Carolina 27834
Telephone (919) 757-6230

PROGRAMS AND RESEARCH FACILITIES: The Department offers two Masters degrees, the M.A. and the M.A.Ed. There are thesis and non-thesis programs for both degrees.

The departmental map library is a depository for U.S.G.S., Defense Mapping Agency, National Ocean Survey, and, on temporary basis, Aeronautical Charts. There is a sizeable air photo collection which concentrates on North Carolina and the other Southeastern States. Separate laboratories for physical geography, air photo interpretation, quantitative methods, and cartography are available. The Institute for Coastal and Marine Resources, in which the Department participates, offers additional support, facilities, and courses for graduate students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The graduate program is open to students with either an undergraduate major in geography or satisfactory course work in the field. Students with limited backgrounds in geography may be accepted under certain conditions. Requirements for admission are set forth in the Graduate Bulletin, which is available from the Graduate School.

Assistantships are available to qualified students. The stipend is normally $3660 per academic year. A limited number of Special Talent Assistantships to aid in defraying out-of-state tuition are available. They are awarded by invitation. A prospective Special Talent student should have a transcript and two letters of recommendation sent to the Graduate Advisor. This will permit a determination to be made whether to invite the student to apply for a Special Talent Assistantship.

STAFF:

Simon Baker, B.S., M.S. Arizona, Ph.D. Clark, Associate Professor

Ennis L. Chestang, B.S., M.S. Florida State, Ph.D. Indiana, Professor and Chairman

Frederick Day, B.A. Syracuse, M.A., Ph.D. Ohio State, Lecturer

William W. Hankins, A.B., M.S. (Planning), M.S. (Geography) Florida State, Associate Professor

Edward P. Leahy, B.M.E. Virginia, M.B.A. Columbia, Ph.D. Florida, Professor

Palmyra Leahy, A.B., Licenciado, Minas Gerais (Brazil), Assistant Professor

Janet H. Petterson, A.B. Mount Holyoke, M.A. Ohio State, Ph.D. Florida, Assistant Professor

Philip Shea, B.A. Middlebury, M.A., Ph.D. Michigan State, Assistant Professor

Richard A. Stephenson, B.A. Kent State, M.S. Tennessee, Ph.D. Iowa, Professor

Douglas C. Wilms, B.A., M.A. Missouri, Ph.D. Georgia, Professor

Mulatu Wubneh, A.B. Haille Selassie, M.A., Ph.D. (Planning) Florida State, Assistant Professor

Charles Ziehr, B.A. Arkansas, M.S. South Carolina, Ph.D. Indiana, Assistant Professor

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Gunderson, Neil. "User Impact along the Southern Appalachian Trail: A Study in Recreational Geography," 1983.

67

East Tennessee State University

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

DATE FOUNDED: 1951 GRADUATE PROGRAM FOUNDED: 1960

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 0

CHAIRPERSON: Donald H. Poole

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Graduate Committee, Department of Geography and Geology, East Tennessee State University, Johnson City, Tennessee 37601
Telephone (615) 929-4360

PROGRAMS AND RESEARCH FACILITIES: The department offers a major concentration in the following areas: Urban and Region Planning, Physical Geography, and In-Service Teacher Training.

A well-equipped cartographic and air photo-remote sensing laboratory is present in a Departmental Research Annex. A map depository is housed in the University library. In addition, the library subscribes to many hundreds of periodicals in geography and in supporting fields.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The Department of Geography offers graduate programs leading to the Master of Arts degree. Three types of programs in geography may be followed: a professional program emphasizing Urban and Regional Planning, a professional program in Physical Geography, and a regional specialization for persons seeking training for teaching in the elementary and secondary school systems.

Students determine their own curriculum, depending on interests, with the help of the advising committee; however, the following four graduate courses are required of all students: Field Methods, Quantitative Techniques, Evolution of Geographic Thought, and Research in Geography.

The Department of Geography urges its graduate students to participate in the cooperative educational experience at East Tennessee State University. By doing so the student not only can work but can gain valuable experience in his desired field of expertise.

Minimum degree requirements for the M.A. are: 1) 32 semester hours of geography which includes 3 papers of a directed research nature, 2) 27 semester hours of geography plus a thesis (3 semester hours), 3) A minimum of 21 semester hours of geography following a thesis or non-thesis option and 9 semester hours in a chosen minor field.

University teaching and research assistantships are available. Selection for admission and financial assistance will be based on the applicant's academic record, letters of recommendation, GRE scores, and a statement concerning professional goals.

STAFF:

Clifton C. Carpenter, M.A., Kentucky, 1958, Associate Professor—geomorphology, political, Soviet Union

George A. Finchum, Ed.D., Tennessee, Professor—teaching of geography

Charles Gunter, M.A., Tennessee, 1963, Assistant Professor—historical, cultural geography, United States, geography of Southern Appalachia

Michael P. Marchioni, Ph.D., Cincinnati, 1971, Associate Professor—urban geography and planning, location theory, history and philosophy of geography

Robert W. Peplies, Ph.D., Georgia, 1968, Professor—remote sensing, soils, settlement, Europe, history and philosophy of geography

Donald H. Poole, Ph.D., Georgia, 1969, Professor and Chairman—physical, geomorphology, climatology, photo interpretation, North America, Southern Appalachians

Chester T. Stout, M.A., East Tennessee State, 1962, Associate Professor—historical and agricultural geography, economic, Africa, United States

Robert L. Wyatt, M.A., East Tennessee State, 1964, Assistant Professor—agricultural economic geography, South Africa, conservation of natural resources

Eastern Kentucky University

DEPARTMENT OF GEOGRAPHY AND PLANNING

DATE FOUNDED: 1928 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., M.A. with specialization in Planning or specialization in Community Development, M.A. in Education

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 4
NOT IN RESIDENCE: 1

CHAIRMAN: Ronald L. Marionneaux

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Ronald L. Marionneaux, Department of Geography and Planning, Eastern Kentucky University, Richmond, Kentucky 40475
Telephone (606) 622-1418

PROGRAMS AND RESEARCH FACILITIES: Five major areas of interest are offered at the master's level. They are Planning, Community Development, Cartography-Remote Sensing, General, and Education.

In addition to a large collection of wall maps and modern visual aids, departmental spaces include laboratories housing cartographic, climatic, photographic, photogrammetric, and computer equipment for instruction and research. A department map library is available for student convenience and study. The department maintains a weather station.

Departmental programs are aided by the Geographical Studies and Research Center. The Center, while independent of the department, is closely allied and provides research opportunities for graduate students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Academic plans and admission requirements are outlined in the Graduate Bulletin of Eastern Kentucky University. Graduate assistantships of $2600 and $3000 are available with waiver of out-of-state tuition rate. The university is on a semester system.

STAFF:

William G. Adams, Ph.D. candidate, Kentucky, Associate Professor—data acquisition, Latin America, physical

David W. Howes, Ph.D. candidate, Wisconsin-Milwaukee, Assistant Professor—planning, economic, remote sensing

Timothy J. Kubiak, Ph.D., Michigan, 1973, Professor—planning, economic

Ronald L. Marionneaux, Ph.D., Indiana, 1970, Professor and Chairman—planning, urban, environmental

Dale R. Monsebroten, Ph.D., Indiana State, 1973, Professor—physical, climate, environmental planning

Dennis E. Quillen, Ph.D., Tennessee, 1975, Associate Professor—transportation, economic, planning

Joseph R. Schwendeman, Jr., Ph.D., Indiana, 1966, Professor (part-time)—physical, North America, climate

Wilma J. Walker, Ph.D., Kentucky, 1978, Associate Professor—cultural, political, Africa

Eastern Michigan University

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

DATE FOUNDED: 1903 GRADUATE PROGRAM FOUNDED: 1927

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 10
NOT IN RESIDENCE: 21

HEAD: Elwood J. C. Kureth

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Robert Ward, Department of Geography and Geology, or Dr. Marshall McLennan, Histor-

ic Preservation Planning, Eastern Michigan University, Ypsilanti, Michigan 48197
Telephone (313) 487-3140 or 487-0232

PROGRAMS AND RESEARCH FACILITIES: *GEOGRAPHY.* The Department of Geography and Geology offers courses leading to the degrees of Master of Arts and Master of Science. Students who complete programs emphasizing man and his works receive the degree of Master of Arts; those whose programs stress physical geography, land use analysis and other aspects of environmental studies receive the Master of Science degree. The department also offers a Master of Science in historic preservation with concentrations in historic preservation planning and historic administration.

The department awards 9 1/2 graduate assistantships each year. A graduate assistantship stipend ranges from $3,150-$3,350. In addition, the University pays full tuition for 16 credit hours for each fiscal year of the assistantship, as well as registration and health service fees. The total package approximates $4,800, depending whether you are a resident or nonresident of Michigan.

Degree Requirements. The Master's degree in geography may be completed by choosing Option One (30 semester hours), Option Two (30 semester hours), or Option Three (30 semester hours). The differences between these options are discussed below.

Option One: Students whose life/career goals include research activity may elect to complete a thesis (representing six semester hours credit). The thesis topic and design are developed by the Master's candidate with the advice of a departmental graduate faculty member. The completion of a thesis is especially recommended as a valid learning experience for those who intend to pursue further advanced degrees, but is also useful for those who seek employment with organizations that perform research functions.

Option One requires the completion of 30 semester hours broken down as follows: 18-24 hours in geography, 0-6 hours in approved cognates, and the remaining 6 hours in thesis credit.

Option Two: This option is designed to serve individuals who may prefer additional course work and/or work experience as a substitute for thesis research and would benefit from an off campus internship experience. It also offers scope to in-service individuals (e.g., planners, soil scientists, and others) to reorganize and apply the subject matter of their work experience to an E.M.U. course under the supervision of a departmental graduate faculty member who evaluates the student's performance. Either of these supervised experiences may be accomplished by enrolling in GEO 687 or GEO 688 or GEO 689, with approval of the graduate coordinator.

Of the 30 hour total a maximum of six hours may be taken as cognate hours outside the department. A requirement of this option is the successful completion, while in residence at E.M.U., of two hours achieved through the composition of a paper of publishable quality. Graduate faculty in the department must be consulted in the initiation, design, and completion of the paper.

Option Three: This option is designed to enhance the career of practicing or prospective elementary and secondary teachers. Students may elect to develop their teaching units under the supervision of three different faculty members. Each unit, worth two credit hours, shall be taken under the catalog number GEO 698.

HISTORIC PRESERVATION PROGRAM. The Department of Geography administers an interdepartmental program in historic preservation. The program includes a 36 hour Master of Science curriculm in historic preservation, and, as a Special Student, a five-course curriculum granting a certification of completion and satisfactory academic performance. Students in the Master's program may elect to pursue a general curriculum in historic preservation or to take their degrees in historic preservation with a concentration in either historic planning, historic administration, or heritage interpretation. This choice must be formally declared to the program coordinator by the time the student has completed 20 hours of graduate work in historic preservation.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Tri-semester. *Admission Requirements:* Undergraduate Grade Average of B or better. *Financial Aid:* Departmental graduate assistants and teaching fellows ($3150 to $3350).

STAFF:

Allen Cichanski, Ph.D. candidate, Ohio State, Assistant Professor—mineralogy, petrology, earth science education

George M. Howe, Ph.D., Clark, 1956, Professor—weather and climate

Eugene Jaworski, Ph.D., Louisiana State, 1971, Professor—geomorphology, soils, cartography, remote sensing

Elwood J. C. Kureth, Ph.D., Michigan, 1971, Professor—world regions, location analysis, Anglo-America

Horace A. MacMahan, Jr., Ed. D., Colorado, 1967, Professor—earth science, methods

Robert B. Mancell, Ph.D., Michigan, 1974, Associate Professor—economic, urban, Latin America, neighborhood preservation

James R. McDonald, Ph.D., Illinois, 1964, Professor—human migrations, geographic thought, Europe

Marshall S. McLennan, Ph.D., UC, Berkeley, 1973, Associate Professor—cultural, historic preservation, settlement, folk architecture

Andrew A. Nazzaro, Ph.D., Michigan State, 1974, Associate Professor—cultural, Africa, medical, rural development, historic preservation

Lawrence Ogden, D.Sc., Colorado School of Mines, 1958, Professor—earth science education, economic geology

Carl F. Ojala, Ph.D., Georgia, 1972, Professor—economic, cultural, North America

C. Nicholas Raphael, Ph.D., Louisiana State, 1968, Professor—geomorphology, coastal zones

Ranjit Tirtha, Ph.D., North Carolina, 1961, Professor—world regions, population, Asia, urban planning

Daniel S. Turner, Ph.D., Wisconsin 1948, Professor—economic geology, earth science, stratigraphy, glacial geology

Robert M. Ward, Ph.D., Michigan, 1971, Professor—cartography, natural environmental hazards, land use, rural planning/preservation

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:
Nagy, Bela. "Colorimetric Development of European Cartography," 1983.

Florida Atlantic University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1964 GRADUATE PROGRAM FOUNDED: 1972

DEGREES OFFERED: M.A. (cooperative Ph.D. with University of Florida and Florida State)

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 8
NOT IN RESIDENCE: 6

CHAIRPERSON: Ronald Schultz

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Alan Craig, Graduate Advisor, Department of Geography, Florida Atlantic University, Boca Raton, Florida 33431
Telephone (305) 393-3250

PROGRAMS AND RESEARCH FACILITIES: Florida Atlantic University is an upper division and graduate university in the state system, offering advanced training at the junior, senior, master's, and doctorate levels. The facilities available to geographers include fully-equipped cartography and remote sensing interpretation laboratories containing NASA and other imagery and more than 23,000 maps; a quantitative techniques laboratory; complete computer facilities with printer and plotter output; a darkroom; and an 800,000 item library.

Departmental strengths are in the following areas: urban studies, planning, Latin America, biogeography, remote sensing, and environmental perception. Strong programs in other physical and social science departments provide for cognate and inter-departmental work.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: A GRE score of 1000 and an upper division GPA of B are required for admission. Out-of-state tuition waivers are available. M.A. requirements: 30 credits (9 of which are geography seminars); preliminary oral examination; thesis. Any geography, foreign language, or statistics deficiencies are additional to the 30 credit minimum.

STAFF:

Alan Craig, Ph.D., Louisiana State, 1966, Professor—Latin America, biogeography, Florida

James Latham, Ph.D., Pennsylvania, 1959, Professor—remote sensing, urban, planning, Anglo-America

David Lee, Ph.D., UCLA, 1967, Associate Professor—Africa, cultural, cartography, geography of women

J. Warren Nystrom, Ph.D., Clark, 1942, Adjunct Professor—political, economic, Europe, Latin America

Ronald Schultz, Ph.D., Washington, 1971, Associate Professor—economic, urban, quantitative

Robert Tata, Ph.D., Syracuse, 1968, Professor—economic development methodology, Latin America

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Koontz, Jerry M. "A Geographic Information System for School Planning," 1983.

Phillips, Julie A. "Spatial Variations in Mortgage Lending in Broward County," 1983.

Florida State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1929 GRADUATE PROGRAM FOUNDED: 1930

DEGREES OFFERED: M.S., M.A. (Cooperative Ph.D. with University of Florida)

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 17
NOT IN RESIDENCE: 6

CHAIRMAN: Patrick O'Sullivan

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Coordinator, Department of Geography, The Florida State University, Tallahassee, Florida 32306
Telephone (904) 644-1706

PROGRAMS AND RESEARCH FACILITIES: The requirements for a Master's degree in Geography can be met by completing either (1) a thesis and 30 semester hours or (2) a research report and 32 semester hours or (3) an interdepartmental program for junior and community college instructors. Whichever mode is selected, one of five substantive curricular tracks can be followed: land use analysis, natural resource and environmental management, rural settlement and agriculture, cities and regional systems, transport. The Department cooperates with the University of Florida in offering a Ph.D. program (participation requires prior admission into the University of Florida Ph.D. program in Geography).

The University has a rich variety of support courses and the library houses a good collection of maps, atlases and data sources. The Department's research facilities include a cartography laboratory. Computing time is available on the University's CDC Cyber 73. Proximity to state and regional agencies in Florida's capital city is advantageous for graduate research. The Florida Resources and Environmental Analysis Center (housed within the Department of Geography) provides opportunities for funded research for both graduate students and faculty.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Florida State University operates on a semester system. An undergraduate major in geography is not required for admission to the Geography program; rather, students with majors in other disciplines are encouraged to apply with the understanding that minimal deficiencies must normally be rectified for completion of the program. Applicants must submit evidence of strong academic performance in their undergraduate work and must have taken the general aptitude test of the Graduate Record Examination. Undergraduate training in mathematics, statistics, or computer science is desirable. University Fellowships at a stipend of $3,600 for two semesters are available as are Department of Geography Graduate Assistantships at $3,200-$4,800 for two semesters. Both may carry a waiver of out-of-state fees. Other financial aid is available in the form of Research Assistantships and hourly wage employment in research projects through the Florida Resources and Environmental Analysis Center.

GRADUATE FACULTY:

James R. Anderson, Jr., M.A., Eastern Michigan, 1973, Instructor—production cartography

Earl J. Baker, Ph.D., Colorado, 1974, Associate Professor—behavioral analysis, perception of natural hazards

William R. Brueckheimer, Ph.D., Michigan, 1954, Professor—conservation, resource problems, political, recreation

Edward A. Fernald, Ph.D., Michigan State, 1968, Professor—geographic education, land and resource use, Florida

Janet E. Kodras, Ph.D., Ohio State, 1982, Assistant Professor—population, development, policy

Harold McConnell, Ph.D., Iowa, 1964, Professor—quantitative methods, geomorphology, cartography, sport

Patrick O'Sullivan, Ph.D., London School of Economics, 1967, Professor—military, political, economic

Donald J. Patton, Ph.D., Harvard, 1949, Professor—resources, environmental perception, economic, Anglo-America

Burke G. Vanderhill, Ph.D., Michigan, 1956, Professor—settlement, historical landforms, Canada, United States, Europe

Morton D. Winsberg, Ph.D., Florida, 1958, Professor—geographic thought, agricultural, research methods, Latin America

Richard E. Zeller, Ph.D., Ohio State, 1978, Assistant Professor—urban, economic marketing, computer graphics

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Dawdy, Richard. "An Assessment of the Applicability of Hoyt's Sector Theory to Tallahassee, Florida," 1982.

University of Florida

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1941 GRADUATE PROGRAM FOUNDED: 1947

DEGREES OFFERED: M.A., M.S., M.A.T., M.S.T., Ph.D.

GRANTED 7/1/82-6/30/83: 3 M.A. 4 M.S.

GRADUATE STUDENTS IN RESIDENCE: 12 Masters, 11 Ph.D.
NOT IN RESIDENCE: 4 Masters, 2 Ph.D.

CHAIR: Stephen M. Golant

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Cesar N. Caviedes, Graduate Coordinator, Department of Geography, University of Florida, Gainesville, Florida 32611
Telephone (904) 392-0494

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers work for the following graduate degrees: Master of Arts or Master of Science (thesis); Master of Arts in Teaching or Master of Science in Teaching (non-thesis but with required teaching experience); Doctor of Philosophy. A graduate student should have an undergraduate major in geography, the social sciences, or the physical sciences with emphasis on geography. Deficiencies in undergraduate work in geography can be corrected concurrently with registration in graduate-level courses.

The Department is prepared to support advanced programs in various systematic and regional specialties. Human and physical geography research inquiries may be pursued in urban, economic, social, population, cultural, human ecology, and historical fields of geography, environmental and resource studies, tropical agriculture, geomorphology, and remote sensing topics. Regional inquiries related to Latin America, Florida, and Africa south of the Sahara may be pursued. The Department maintains close ties with interdepartmental programs in Latin American and African studies, urban and regional studies, tropical agriculture, tropical ecology, water resources, and gerontological studies. Certificates in certain of these fields may be obtained in addition to graduate degrees in geography.

The Department computer facilities include four computer terminals, including a Tektronix graphics terminal, all of which communicate with the three IBM research computers and the VAX educational computer located on campus. Hardcopy output terminals are also available. The Department also possesses an IBM PC microcomputer and a Numonics digitizer. Well-equipped cartography and photographic laboratories are maintained, including a process camera, print processor, multi-format enlarger, and automated lettering system.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Florida operates on the semester system. Admission to the Graduate School requires (1) presentation of a baccalaureate degree from an accredited college, (2) a B average or its equivalent in prior junior or senior level undergraduate work, (3) a minimum combined score of 1,000 on the aptitude test of the Graduate Record Examination (GRE). Three letters of recommendation are required by the Department.

Applications for admission to the University and the Graduate School must be made not later than ten weeks before the proposed date of entry. The necessary information and forms, including requests for housing, may be obtained from the Office of Admissions, University of Florida. Applicants may at the same time request a copy of the Graduate School Catalog. Foreign students should direct their requests to the Adviser to Foreign Students.

The University offers graduate fellowships and assistantships ranging from $3900 to $5850 for nine months; waivers of out-of-state fees may be arranged. NDEA Title VI Fellowships may be available for students interested in Latin American Studies and in African Studies.

The Department of Geography offers the following financial support for nine-month teaching and research assistantship appointments: one-third-time assistantships providing a stipend of $4650 and one-half-time assistantships providing a stipend of $6000; waivers for out-of-state fees may be arranged.

Applications for fellowships and assistantships should be received before February 1.

STAFF:

Gustavo A. Antonini, Ph.D., Columbia, 1968, Professor—Caribbean, tropical resource utilization, geomorphology

HelenJane Armstrong, Ph.D., Oregon State, 1977, University Librarian—map use and interpretation, geographical bibliography

Cesar N. Caviedes, D.Sc., Freiburg, 1969, Professor—social, South America, environmental systems

John R. Dunkle, Ph.D., Clark, 1955, Professor—cartography, political

Kay M. Eoff, Ph.D., Florida, 1962, Assistant Professor—conservation, energy resources, astronomy

Stephen M. Golant, Ph.D., Washington, 1972, Associate Professor and Chair—social, behavioral, social gerontology

James A. Henry, Ph.D., Kansas, 1978, Associate Professor—climatology, physical, remote sensing

Ary J. Lamme III, Ph.D., Syracuse, 1969, Associate Professor—historical, Anglo-America, geographic thought

Edward J. Malecki, Ph.D., Ohio State, 1975, Associate Professor—urban systems, diffusion, urban and regional development, research methods

Robert B. Marcus, Ed.D., Florida, 1956, Professor—Florida, physical, resource use, tourism

David L. Niddrie, Ph.D., Manchester, 1965, Professor—Southern Africa, Caribbean, agricultural, land use

Carl N. Olsson, Ph.D., Florida, 1970, Associate Professor—climatology, energy resources, astronomy

Louis A. Paganini, Ph.D., Florida, 1970, Associate Professor—Latin America, cultural, physical, biogeography

Hugh L. Popenoe, Ph.D., Florida, 1960, Professor and Director of International Programs—tropical land use, tropical ecology

Leonidas H. Roberts, Ph.D., Florida, 1958, Professor—physical, astronomy

Nigel Smith, Ph.D., UC, Berkeley, 1976, Associate Professor—conservation, human ecology, Third World development, medical

Paul R. Stayert, M.A., Florida, 1980, Cartographer—graphic arts, photography/map reproduction

Grant Thrall, Ph.D., Ohio State, 1976, Associate Professor—spatial economic theory, public goods

PROFESSORS EMERITI:

Raymond E. Crist, Ph.D., Grenoble, 1937
Clark I. Cross, Ph.D., Washington, 1951
Shannon McCune, Ph.D., Clark, 1939

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

Dicks, Steven. "The Use of Landsat Imagery for Monitoring Forest Cover Alteration in Xinguara, Brazil," 1982.*

Fillman-Richards, Jeanne Elizabeth. "Color Infrared Techniques in Archeological Site Location: Shell Ring Identification along the South Carolina Coastlands," 1982.*

Grigsby, Mona F. "U.S. Technology Transfer: The Case of Remote Sensing Applications in Nicaragua," 1983.*

Ledesma, Hector R. "Analysis of Selected Soil Properties and Environmental Relationships in Las Cuevas Watershed, Dominican Republic," 1983.*

Oldakowski, Raymond K. "An Analysis of Deviant U.S. Population Residential Shifts: The Out-Migration from the Sun Belt," 1982.*

Renner, Mikel E. "Probability of Drought-Induced Corn Crop Failure in North Florida," 1982.*

Vazquez, Maria A. "The Effects of Impounding on a Mangrove Forest," 1983.*

George Mason University

DEPARTMENT OF PUBLIC AFFAIRS

DATE FOUNDED: 1972 GRADUATE PROGRAM FOUNDED: 1978

DEGREES OFFERED: M.S. in Geographic and Cartographic Sciences

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 0
NOT IN RESIDENCE: 55

CHAIRPERSON: Dr. Harold Gortner

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Admissions Office, George Mason University, Fairfax, Virginia 22030
Telephone (703) 323-2104

PROGRAMS AND RESEARCH FACILITIES: The M.S. program is organized around a core of six required courses: Geographic Information Systems, Remote Sensing, Computer Cartography, Quantitative Methods, Geographic Fieldwork, and Geographic Thought and Methodology. There is a broad selection of electives in cartography and in applied geography.

The Geography Program attempts to utilize the vast cartographic and geographic resources of the Washington, D.C. area through the hiring of adjunct faculty who are specialists in their field, and by allowing students access to state-of-art cartography at off-campus locations. On campus facilities include laboratories for computer graphics, cartographic reproduction, photo interpretation, and photogrammetry. The Geography Program publishes the *Virginia Geographer*, the official semiannual journal of the Virginia Geographical Society. For further information write to Geography Program Director, Department of Public Affairs, George Mason University, Fairfax, Virginia 22030, or telephone (703) 323-2272.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Most graduate courses are offered evenings. Many students are employed full or part-time in geography related jobs.

Applicants should have a bachelor's degree in geography or cartography or equivalent with a grade point average of 2.75 (on a 4.0 scale) in their last two years of undergraduate work and should present GRE scores. Other applicants may be considered for provisional or non-degree status.

Various scholarships and loans are available through the Financial Aid Office (703) 323-2176. Assistantships are available through the Department of Public Affairs.

STAFF:

Alice C. Andrews, Ed.D., George Washington, 1975, Associate Professor—cultural, population, Soviet Union

Jean-Claude Boswell-Thomas, Ph.D., University of Aix-Marseille, 1967, Associate Professor—economic, remote sensing, Europe and Mediterranean, urban

Carleton W. Cox, Ph.D., Wisconsin-Madison, 1977, Assistant Professor—thematic and computer cartography, aerial photography and photogrammetry

James W. Fonseca, Ph.D., Clark, 1974, Associate Professor— political, Latin America, Anglo-America

Robert S. Hayden, Ph.D., Georgia, 1979, Assistant Professor—geomorphology, conservation, field methods, meteorology and climatology

Mark B. Lindberg, Ph.D., Kansas, 1983, Assistant Professor—automated cartography, map perception, economic geography

George Washington University

DEPARTMENT OF GEOGRAPHY AND REGIONAL SCIENCE

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1949

DEGREES OFFERED: M.A., M.A. Ed.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 2

CHAIRMAN: John Lowe

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. John Lowe, Chairman, Department of Geography, George Washington University, Washington, D.C. 20052
Telephone (202) 676-6185

PROGRAMS AND RESEARCH FACILITIES: Located in newly remodeled quarters four blocks from the White House, the Department of Geography and Regional Science of the George Washington University is within walking distance of the Departments of State and Interior, the World Bank, and the Organization of American States, and it is a short subway ride from the Library of Congress and the many other major research facilities of Washington, D.C. This access combines with excellent facilities and diverse programs on campus (including the Environmental Studies and Latin American Studies programs managed by the department, and the Geobiology and Sino-Soviet programs in which it participates) to provide unparalleled opportunities for the study of geography. The department has designed its offerings to make use of these resources while providing the student with a strong background in the major fields of geography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* The course of study leading to the degree of Master of Arts consists of 30 semester hours with thesis and 36 semester hours without thesis. Each student may select a program of studies from one of the following: resources and the physical environment; population and resources; transportation and urbanization; and regional development. Additionally, students must show a proficiency in an approved foreign language, statistics, or computer programming.

STAFF:

Judith Banister, Ph.D., Stanford, Lecturer—China
Donald Dahmann, Ph.D., Chicago, Lecturer—urban, population
Marvin Gordon, Ph.D., Columbia, Professor—agriculture, Latin America
David Kamerling, Ph.D., Syracuse, Lecturer—U.S.S.R.
Richard Kott, Ph.D., Poitiers, Lecturer—energy, political
John Lowe, Ph.D., Clark, Professor—urban, transportation
Edward Marasciulo, B.A., Miami, Lecturer—Latin America
Shelley Mastran, M.A., George Washington, Lecturer—cultural
Eldor Pederson, Ph.D., UC, Berkeley, Associate Professor—urban, political
Jerome Pickard, Ph.D., Syracuse, Research Professor—regional development
David Selden, M.A., Wisconsin, Lecturer—cartography
Arthur Viterito, Ph.D., Denver, Assistant Professor—climatology, remote sensing
Jeffrey Zinn, Ph.D., Oregon State, Lecturer—resource management, environmental studies

AFFILIATED STAFF:

Michael J. Enders, Ph.D., Clark, Assistant Professor (Urban and Regional Planning)—urban planning, environmental resources management
John Sibert, Ph.D., Michigan, Associate Research Professor (Electrical Engineering and Computer Science)—computer graphics, cartography

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Eule, Stephen D. "The Structure of Transmission Systems: A Study in the Spatial Integration of Electric Energy," 1982.

Rey, Charles F. "Preference Migration, a Case Study: Motivation Factors behind the Decision-Making Process of Army Officers," 1982.

Georgia State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1967 GRADUATE PROGRAM FOUNDED: 1971

DEGREES OFFERED: M.A., M.A.T.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 10
NOT IN RESIDENCE: 6

CHAIRMAN: Truman A. Hartshorn

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Malcolm A. Murray, Director of Graduate Studies, Department of Geography, Georgia State University, University Plaza, Atlanta, Georgia 30303
Telephone (404)658-3232

PROGRAMS AND RESEARCH FACILITIES: The department specializes in two areas of study: Cartography, and Urban Geography, but also offers program training in Population, Cultural Heritage, Energy/Resource Management, and Regional Geography. Students may select any one of these areas of specialty. Further information about the department and its program is found in the booklet, *Graduate Programs in Geography at Georgia State University*. This booklet can be obtained from the department without charge.

Georgia State University is a major commuter institution with an enrollment of 20,000 students, graduate and undergraduate, located in downtown Atlanta. It has the largest graduate enrollment among universities in the Southeast. The university is near excellent public transportation service, including a stop on the new MARTA rapid rail line. The department maintains close working relations with the university's College of Public and Urban Affairs, planning agencies and private sector firms in the metropolitan area, and with other geography departments in the state and region. Many opportunities for part-time employment are available in the metropolitan area. Internship opportunities are available.

The department is housed on the eleventh floor of the Urban Life Center with excellent facilities including a fully equipped cartography production laboratory, weather station, computer terminal, electronic digitizer, color graphics microcomputer, and plotter. The department publishes both a map and a research paper series. Listings of titles in print are available.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University follows the quarter system. Applicants for admission to the graduate school must have completed a bachelor's program from an accredited institution and present acceptable scores on both the Aptitude and Advanced portions of the Graduate Record Examination. Graduate assistantships are available on a competitive basis. Georgia State University is an Affirmative Action/Equal Employment and Educational Opportunity Institution.

STAFF:

John M. Ball, Ph.D., Michigan State, 1961, Professor of Geography and Professor of Education—geographic education, Latin America

Sanford H. Bederman, Ph.D., Minnesota, 1973, Professor—cultural, Africa, poverty

Borden D. Dent, Ph.D., Clark, 1970, Professor—map design, cartography, urban

Frank Drago, M.A., Georgia State, 1976, Staff Cartographer

Truman A. Hartshorn, Ph.D., Iowa, 1968, Professor and Chairman—urban, transportation, American cities

Malcolm A. Murray, Ph.D., Syracuse, 1955, Professor—population, energy, medical

Richard Pillsbury, Ph.D., Pennsylvania State, 1968, Professor—historical-urban, social

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Barnes, Edward F. "An Assessment of the Environmental Effects of an Abandoned Underground Coal Mine on Pleasant Grove, Alabama," 1982.

University of Georgia

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1951

DEGREES OFFERED: M.A., Ph.D., M.Ed., Ed.D.

GRANTED 7/1/82-6/30/83: 9 Masters, 1 Doctoral

GRADUATE STUDENTS IN RESIDENCE: 33 Masters 17 Ph.D.
NOT IN RESIDENCE: 3 Masters 2 Ph.D.

HEAD: James S. Fisher

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chair, Graduate Studies Committee, Department of Geography, University of Georgia, Athens, Georgia 30602
Telphone (404) 542-2856

PROGRAMS AND RESEARCH FACILITIES: Work is offered in human, physical, and regional geography and in the various techniques used in geography. A considerable degree of latitude is allowed students in designing their programs of study. A student may concentrate in one aspect of geography or strive for understanding in two or more divisions. All students develop research and organizational skills by completing a thesis or dissertation. The M.Ed. and Ed.D. degrees with a concentration in geography are awarded in conjunction with the College of Education. Students interested in geographic education should correspond directly with the Head, Department of Social Science Education, University of Georgia, Athens, Georgia 30602.

The Department of Geography is housed in a modern, air-conditioned building which provides well-equipped teaching and research accommodations including cartographic, climatic, photo interpretation, photogrammetric, and remote sensing equipment and laboratories. A broad range of computer and related facilities are also available within the department, including a data processing laboratory equipped with micro-computers, CRT graphics terminals, hard-copy output terminals, digitizers, and small plotters. A keypunch and program library are also available. The remote sensing laboratory, for example, contains a digitizer and interactive image processing and computer graphics system. A variety of visual interpretation equipment and a microdensitometer are also available for student use. Photographic and darkroom facilities, individual student carrels, research rooms, a rooftop weather station, field vehicles, and equipment combine to make the department a stimulating place in which to study. Located in the same building is the Cartographic Services Laboratory which assists faculty and student research efforts.

The University's library holdings, particularly in geography, are extensive. Approximately 260,000 sheet maps and over 140,000 aerial photos are maintained in the nearby Science Library. The Computer Center operates one of the largest and most advanced computer facilities in the U.S., containing IBM 370/158, CDC, CYBER 76, and HEP systems.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Graduates of any accredited institution are eligible to apply for admission to the University's Graduate School. All correspondence concerning admission should be directed to the Department of Geography. Upon receipt of all required admission materials, the department's Graduate Studies committee will evaluate the application. A $10.00 non-refundable application fee is required. Normally graduate students are admitted to initiate their course work in the fall quarter, though exceptions are sometimes made. Whenever possible, prospective students should file completed applications no later than February 15 for admission in the following fall quarter.

Applicants should normally have had a "B" or higher undergraduate grade average and at least 1000 on the General (Aptitude) Test of the Graduate Record Examination or its equivalent on the Miller Analogies Test.

Foreign language requirements are flexible for both the M.A. and Ph.D. programs at Georgia. For the Ph.D., the Department of Geography requires either a reading knowledge of two languages, one of which will be either French, German, or Russian; or an advanced knowledge (including conversational ability) in one language; or reading knowledge of one language plus an advanced knowledge of an acceptable alternative research tool (statistics, mathematics, computer programming). For the M.A., reading knowledge of one foreign language or an acceptable alternative research tool is required.

Financial assistance is often available. Departmental assistantships are generally awarded for the nine-month academic year, contingent upon satisfactory performance and maintenance of a satisfactory (B or better) academic record. These assistantships provide $5125 for Master's students and $5463 for doctoral students, a waiver of out-of-state tuition, and require one-third time work (13 hours per week). The occasional twelve-month appointments pay $6833 and $7283, respectively. Several Graduate School Assistantships are awarded at the same pay scale, but on a university-wide competitive basis. Recipients are employed in research or as assistants to faculty members. The Atlantic Steel Company annually provides funds that are used to support dissertation and thesis research in economic geography. Support through funded research projects is occasionally available. The University of Georgia operates on the academic quarter plan with three quarters constituting an academic year. Summer sessions are also held. Normally the department sponsors deserving graduate students for at least two years in an M.A. program and three years in a Ph.D. program.

STAFF:

Joseph W. Bencloski, Ph.D., Pennsylvania State, 1976, Assistant Professor—population, cultural, Anglo-America, geographic education

**William H. Berentsen, Ph.D., Ohio State, 1976, Associate Professor*—regional development and regional planning, Central Europe and the U.S.S.R.

**Elgene O. Box, Ph.D., North Carolina, Chapel Hill, 1978, Associate Professor*—ecology, climatology, soil water, modelling, conservation

**George A. Brook, Ph.D., McMaster, 1975, Associate Professor*—geomorphology, hydrology, karst, Quaternary studies

**Louis De Vorsey, Ph.D., London, 1965, Professor*—historical, North America, Western Europe

**James S. Fisher, Ph.D., Georgia, 1967, Professor and Head*—North America, economic, industrial location

R. James Heyl, Ph.D., Illinois, 1962, Associate Professor—transportation, recreation, Anglo-America

Thomas W. Hodler, Ph.D., Oregon State, 1977, Assistant Professor—thematic cartography, production cartography, hydrology

**Don R. Hoy, Ph.D., Illinois, 1960, Beaver Professor*—Latin America, development

James B. Kenyon, Ph.D., Chicago, 1960, Associate Professor—urban, manufacturing, transportation, planning

**Vernon G. Meentemeyer, Ph.D., Southern Illinois, 1971, Associate Professor*—climatology, bioclimatology, landscape ecology

**Ronald L. Mitchelson, Ph.D., Ohio State, 1979, Assistant Professor*—transportation, quantitative methods

**Clifton W. Pannell, Ph.D., Chicago, 1971, Professor*—China, East Asia, urban and regional systems, political

**Albert J. Parker, Ph.D., Wisconsin, 1980, Assistant Professor*—biogeography, climatology, soils, field methods

**Philip W. Suckling, Ph.D., British Columbia, 1977, Associate Professor*—climatology, solar radiation studies, microclimatology

**Roy A. Welch, Ph.D., Glasgow, 1968, Research Professor*—remote sensing, photogrammetry, computer graphics, geographic information systems

**James O. Wheeler, Ph.D., Indiana, 1966, Professor*—urban, manufacturing, transportation

*Members of Graduate Faculty who serve as Ph.D. Advisory Committee Chairmen.

EMERITUS FACULTY:

James A. Barnes, Ph.M., Wisconsin, 1938, Associate Professor
Kirk H. Stone, Ph.D., Michigan, 1949, Research Professor
James F. Woodruff, Ph.D., Michigan, 1952, Professor

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Folkoff, Michael E. "Climatic Control of the Geography of Clay Minerals in the A-Horizon of Soils in the United States," 1983.* Mf., University Microfilms.

Master's:

Bjorkland, Ronald A. "The Geography of Climatic Influences on Organic Matter Turnover Rates in Terrestrial Ecosystems," 1983.*

Brown, Catherine L. "A Geographical Analysis of the Chinese in Georgia, 1865-1980," 1982.*

Davis, Jerry D. "Karst Geomorphology of Upper Sinking Cove, Franklin County," 1982.*

Hunke, Jimmy P. "Fluvial Morphometry as a Tool in Rediscovering Historical Waterpowers," 1983.*

Jones, C. A. "Comparison of the Radiation Balance of a Rooftop Lawn with that of a Conventional Rooftop Surface," 1983.*

Liang, Ching-liang. "A Computer Program for Two-Dimensional Spectral Analysis of Regularly and Irregularly Spaced Data," 1983.*

Mathews, Steven E. "Cartographic Potential of Simulated Thematic Mapper Imagery of Urban Areas," 1983.*

O'Brien, Eileen M. "The Relationship between Climate and Geographic Variations in Edible Plant Species Diversity in Southern Africa," 1982.*

Wojcik, James J. "Climatic Control of the Geography of Base Saturation in United States Soils," 1982.*

University of Hawaii

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1920   GRADUATE PROGRAM FOUNDED: 1931

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/ /82-6/30/83: 10 M.A., 6 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 40 M.A. 25 Ph.D.
NOT IN RESIDENCE: 8 M.A. 6 Ph.D.

CHAIRMAN: Roland J. Fuchs

GRADUATE CHAIRMAN: Brian J. Murton

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Admissions Committee, Department of Geography, 2424 Maile Way,

Porteous Hall Room 445, University of Hawaii at Manoa, Honolulu, Hawaii 96822
Telephone (808) 948-8465

PROGRAMS AND RESEARCH FACILITIES: In conjunction with other departments and research institutes affiliated with the University of Hawaii, the Geography Department offers programs of graduate study and research leading to the M.A. and Ph.D. degrees. Faculty interests and supporting strengths of the University provide advantages for the study of the following general topics: environmental studies and policies; resource systems; population, urbanization and regional development; cartography, remote sensing and computer applications; Pacific and Asian regional problems.

The Department is housed in a new Social Science building; departmental quarters provide graduate students with desk space and common facilities. Graduate students have access to cartographic, photographic, reproduction, remote sensing, and word- and data-processing facilities. Research on topics of departmental specialization is backed by strong collections in several libraries. These include the University libraries, the Bishop Museum Library, the Hawaiian Sugar Planters' Association Library, and the East-West Center collections.

The M.A. program requires a core program of seminars, 15 credits in the field of specialization, and a thesis research paper.

Ph.D. requirements include a seminar on the history of geographic thought, a 30-credit major and 15-credit minor field of specialization, competence in one language plus an approved sequence of advanced courses in research techniques. The candidate must pass written and oral comprehensive examinations and submit a dissertation which is usually based on field work.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. Admission to the M.A. program generally requires a minimum grade point average of B (3.00 on a four-point scale) during the junior and senior years. Admission to the Ph.D. program requires a superior record in graduate work and promise of research ability. Both M.A. and Ph.D. applicants must submit transcripts, GRE results (aptitude tests only), and letters of appraisal from three referees. Available financial aids include teaching assistantships, research assistantships, tuition remission awards, and National Research Fellowships. In addition, attention is called to East-West Center Scholarships which are available to Americans studying Asian or Pacific topics, as well as students from Asian or Pacific countries. If academic requirements have been met, American students may be eligible for a research period in the Asian or Pacific regions. The deadlines for application for assistantships are March 1 and September 1, and for East-West Center Scholarships, December 1.

FACULTY:

R. Warwick Armstrong, Ph.D., Illinois, 1963, Professor—public health and human ecology, medical geography

Jen-hu Chang, Ph.D., Clark, 1954, Professor—climatology, agriculture, China

Sen-dou Chang, Ph.D., Washington, 1961, Professor—China, cartography

Murray Chapman, Ph.D., Washington, 1970, Professor—population (mobility), field methods, Melanesia

Donald W. Fryer, Ph.D., London, 1958, Professor—economic development, Southeast Asia

Roland J. Fuchs, Ph.D., Clark, 1959, Professor—urbanization and population distribution policies, regional development, U.S.S.R. and Asia

Gary A. Fuller, Ph.D., Pennsylvania State, 1972, Associate Professor—population (fertility, policy aspects, diffusion), geography of prophylaxis

David H. Kornhauser, Ph.D., Michigan, 1956, Professor—urbanization and impact of technological change, Japan

Nancy D. Lewis, Ph.D., UC, Berkeley, 1981, Assistant Professor—medical geography, marine resources, Pacific

Brian J. Murton, Ph.D., Minnesota, 1970, Professor—folk-historical geography, peasant agrarian societies, tropical agriculture, South Asia

Peter N. D. Pirie, Ph.D., Australian National, 1964, Professor—population-resource interrelations and management, Pacific

Forrest R. Pitts, Ph.D., Michigan, 1955, Professor—social, cultural, computer applications, Korea and Japan

John M. Street, Ph.D., UC, Berkeley, 1960, Professor—tropical biogeography and agricultural geography, modification of biosphere

Lyndon Wester, Ph.D., UCLA, 1975, Associate Professor—plant geography, Quaternary geography, man-plant relationships

Everett A. Wingert, Ph.D., Washington, 1973, Associate Professor—cartography, remote sensing

Chong-Tong Wu, Ph.D., UCLA, 1973, Associate Professor—regional development, settlement planning, social impact assessment

PART-TIME FACULTY:

Bryce G. Decker, Ph.D., UC, Berkeley, 1970—biogeography, Pacific

Joseph R. Morgan, Ph.D., Hawaii, 1978—marine geography

Ilima A. Piianaia, M.A., Hawaii, 1980—Hawaii

Andrew N. White, Ph.D., Pennsylvania, 1976—health and public facility location

ADJUNCT, AFFILIATE, AND COOPERATING FACULTY:

John E. Bardach, Ph.D., Wisconsin, 1949—marine and aquatic resources

Kent Bridges, Ph.D., UC, Irvine, 1970—computer cartography

Fereidun Fesharaki, Ph.D., Surrey, 1974—energy resources

Lawrence S. Hamilton, Ph.D., Michigan, 1963—forest land use planning

Charles J. Johnson, Ph.D., Pennsylvania State, 1972—mineral resources and policies

Juanita Liu, Ph.D., Simon Fraser, 1979—tourism, regional development

Patrick W. Naughton, Ph.D., West Indies, 1977—hazard assessments

Abraham Piianaia, B.A., Hawaii, 1953—Hawaii, Pacific

Paul J. Schwind, Ph.D., Chicago, 1970—land use and regional planning

T. A. Siddiqi, Ph.D., Frankfurt-Main, 1966—energy technology, environmental policy

Kirk R. Smith, Ph.D., UC, Berkeley, 1977—energy, environmental health

VISITING FACULTY:

Russell J. Blong, Ph.D., Sydney, 1972—hillslope processes, volcanic hazards (Spring 1983)

G. Ross Cochrane, Ph.D., Auckland, 1977—remote sensing (Fall 1982)

Ronald D. Hill, Ph.D., Singapore, 1974—agriculture and land use (Fall 1982)

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Chapman, Barbara A. "A Medical Geography of Endemic Goiter in Central Java," 1982.

Giambelluca, Thomas W. "The Water Balance of the Pearl Harbor-Honolulu Basin," 1983.

Huang, Nora L.H.C. "Female Migration in Taiwan: A Study of Process, Adaptation, and Linkage," 1983.

Isaak, David T. "Petrochemical Production in the Persian Gulf: A Study of an Emerging Industry," 1983.

Noguchi, Yasuo. "Water Balance and Exposure: Their Implication to Vegetation Asymmetry under the Tradewind Regime," 1982.

Singhanetra-Renard, Anchalee. "Northern Thai Mobility, 1870-1877: A View from Within," 1982.

Master's:

Ager, Thomas. "The Perception of Positional Accuracy on Topographic Maps," 1982.

Eckelman, Jane J. "The Interrelatedness of Information and Visual Levels on Maps: A Study of Cartographic Design Assumptions," 1982.

Hart, C. Dylan. "Typeface Connotations in Cartography," 1982.

Hsu, Mei-ling. "Units for Resource Inventory Based on Slope, Surface Irregularity, and Orientation Derived from Contour Maps," 1982.

Morris, Jean. "The Magic of Maps: The Art of Cartography," 1982.

Patterson, Thomas H. "An Evaluation of Singlehanded Plane Table Mapping," 1982.

Ramakrishna, Jamuna. "Traditional Cooking Fuel Use and Air Pollution in Uttar Pradesh, India," 1982.

Sturgell, Charles W. "The Geographic Development of the Port of Honolulu," 1983.

Townsend, P. Wayne. "The Reality and Appearance of Functional Areas on the Landscape," 1983.

Wilson, Winnifred L. "Basal Water Quality Changes with Conversion of Sugar Cane Fields to Urban Use in South-Central Oahu, 1960-1980," 1982.

University of Idaho

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1970   GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.S., M.A.T.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 9

HEAD: Harley E. Johansen

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Michelle Lee, Secretary, Graduate Admissions, Department of Geography, University of Idaho, Moscow, Idaho 83843
Telephone (208) 885-6216

PROGRAMS AND RESEARCH FACILITIES: M.S. is a minimum 30-semester-credit program, thesis or non-thesis option. M.A.T. is a 30-semester-credit non-thesis program.

The department emphasizes three areas of graduate research and instruction:

Cartography—including conventional and computer-generated design and communication techniques for production cartography.

Land and Resource Management—for prospective land surface managers stressing legal, socio-economic, environmental, and demographic aspects of land and resource development with emphasis on mineral resources.

Regional and Town Planning—emphasizing land use and community development problems of rural counties and small towns and cities.

The department is in the College of Mines and Earth Resources and benefits from close association with geology and mining disciplines and the mineral industries of the northwest. Close ties are maintained with the university's several excellent programs in natural resources including the Remote Sensing Laboratory and the Water and Energy Resources Institute. Geography is directly involved in the Institute for Resource Management and shares courses with the Environmental Science and Regional Planning Department at Washington State University just eight miles away. The department maintains a production cartography lab providing "hands on" experience to students, and a lab for computer mapping and G.I.S.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: (Semester System). Admission requires minimum grade point of 2.8 overall, letters of recommendation from three professors and/or job supervisors evaluating applicant's ability to pursue graduate studies. Transcripts of all academic experience and General Graduate Record Examination required. Undergraduate program neet not be in geography. Part-time teaching assistantships and other aid available.

FACULTY:

Alan A. DeLucia, Ph.D., Washington, 1974, Professor and Director, Cart-O-Graphics Laboratory—cartography, air photo interpretation and remote sensing

Nancy B. Hultquist, M.A., Cincinnati, 1967, A.B.D., Iowa, Assistant Professor, half time—computer mapping and graphics, man-environment interaction, geographic information systems, urban

Harley E. Johansen, Ph.D., Wisconsin, 1974, Professor and Head—economic, population, settlement and diffusion, rural development

O. Paul Matthews, J.D., Idaho, 1975, Ph.D., Washington, 1980, Associate Professor—legal aspects of land and resource regulation, mineral law, water resources, political

Scott E. Morris, Ph.D., Colorado, 1983, Assistant Professor—geomorphology, quantitative methods, field techniques, environmental systems

Gundars Rudzitis, Ph.D., Chicago, 1977, Assistant Professor—mineral resources, economic location theory, quantitative methods, environmental analysis

Sam M. W. Scripter, Ph.D., Wisconsin, 1967, Professor and Associate Dean of the College of Mines and Earth Resources—computer applications, local and regional planning, geographical information systems, transportation

ADJUNCT AND AFFILIATE FACULTY:

William B. Hall, Ph.D., Wyoming, 1961, Professor of Geology and Director, Geophotography and Remote Sensing Center—geomorphology

John F. Hultquist, Ph.D., Iowa, 1972, Affiliate Professor—regional development, quantitative methods, behavioral

Maynard M. Miller, Ph.D., Cambridge, 1956, Professor of Geology and Dean, College of Mines and Earth Resources—geomorphology

EMERITUS PROFESSORS:

Harry H. Caldwell, Ph.D., Clark, 1951
Richard L. Day, Ph.D., Illinois, 1959

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Ayers, Herbert S. "A Geographical Analysis of Football/Basketball Recruiting in the Big Sky Conference," 1982.

Jokisaari, Allan O. "The Latah County Map Series: A Simplified Method for Local Production of Basic Topographic Mapping," 1983.

Nemser, Katherine B. "Western Coal Mine Production and Distribution Patterns: 1970 and 1980," 1983.

Skowland, Peter C. "Municipal Boundary Significance and the Urban Service Function in Walla Walla, Washington," 1983.

Illinois State University

DEPARTMENT OF GEOGRAPHY-GEOLOGY

DATE FOUNDED: 1900 GRADUATE PROGRAM FOUNDED: 1945

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 3

CHAIRPERSON: Michael D. Sublett

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Paul F. Mattingly, Department of Geography-Geology, Illinois State University, Normal, Illinois 61761
Telephone (309) 438-7649

PROGRAMS AND RESEARCH FACILITIES: Program fields available to graduate students which correspond to faculty interest and expertise include: physical geography, cartography, remote sensing, urban-economic geography, rural land use, historical-cultural geography, and resource management. Most faculty also have regional strengths, and many have done intensive foreign area, national, or local field work.

Illinois State University has a superlative map collection housed in the new University Library. The Library's holdings of more than 800,000 volumes are supplemented by the 3,000,000 volume collection of the Center for Research Libraries and by a courier service to the University of Illinois Library. The University Computer Services has programming and statistical consulting services available to students engaged in quantitative research. Computer Services also maintains a new Zeta plotter. A digitizer and keypunch facility are housed in the Department, and a large library of spatially oriented programs, including GRID, POLYVRT, SYMAP, SYMVU, and CALFORM, are also available. The University and Department both maintain weather observation stations. The Department has a modern photographic darkroom and large stream table for student use.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Illinois State University admits persons to master's degree programs on the basis of academic record and other criteria. All students seeking admission to the master's degree program in geography must submit scores on the Aptitude Test of the Graduate Record Examination.

Graduate assistantships and various loans and scholarships are available to qualified students. Illinois State University operates on a semester system.

GEOGRAPHY STAFF:

Paul S. Anderson, Ph.D., Australian National, 1979, Associate Professor—cartography, remote sensing, distance education

92

George Aspbury, Ph.D., Michigan, 1975, Assistant Professor—computer cartography, quantitative methods, regional economic development

Norman C. Bettis, Ph.D., Michigan State, 1974, Professor (adjunct)—geographic education

V. James DeMeo, Jr., M.A., Kansas, 1979, Assistant Professor—conservation, climatology

Miriam Hill, M.S., Indiana, 1975, Assistant Professor—physical, behavioral

Eric S. Johnson, Ph.D., Kansas, 1968, Assistant Professor—conservation, meteorology, economic

Paul F. Mattingly, Ph.D., Pennsylvania State, 1961, Professor—urban, land use, planning

E. Joan Miller, Ph.D., North Carolina, 1965, Professor—cultural landscapes, geography in education, Northwestern Europe, United States

Shamim Naim, Ph.D., Oregon State, 1981, Assistant Professor—remote sensing, cartography

James E. Patterson, Ph.D., Illinois, 1958, Professor—resource management, field geography, physical, Illinois, United States

Else T. A. Schmidt, Ph.D., Munich, 1955, Professor—Common Market land use planning, Europe, Africa, Middle East

Stanley B. Shuman, Ph.D., Illinois, 1957, Professor—physical, Australia and Pacific

Michael D. Sublett, Ph.D., Chicago, 1974, Associate Professor and Chairperson—historical, applied, Illinois

William D. Walters, Jr., Ph.D., Indiana 1974, Associate Professor—historical, historic preservation

GEOLOGY STAFF:

John Foster, M.S., Ohio State, 1949, Assistant Professor—geothermal energy, engineering geology

Richard Hart, Ph.D., Iowa, 1961, Associate Professor—micropaleontology, oceanography

James Kirchner, Ph.D., Iowa, 1969, Associate Professor—mineralogy, igneous petrology, field geology

Robert Nelson, Ph.D., Iowa, 1970, Associate Professor—structural geology, Quaternary research, geomorphology

Thomas Searight, Ph.D., Illinois, 1959, Professor—sedimentation, stratigraphy, field geology, fuels

University of Illinois

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1950

DEGREES OFFERED: M.A., M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 6 Masters, 5 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 23 Masters 14 Ph.D.
NOT IN RESIDENCE: 1 Masters 7 Ph.D.

HEAD: Geoffrey J. D. Hewings

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Head, Department of Geography, University of Illinois, 607 South Mathews, Urbana, Illinois 61801
Telephone (217) 333-1880

PROGRAMS AND RESEARCH FACILITIES: Programs of graduate study at the University of Illinois may be classified into five broad fields with specialization in a variety of interest areas. *Economic Geography* and *Regional Science* including: Urban and Regional Analysis, Industrial Location, Regional Economic Development, Resources Utilization, Transportation, and Public Policy Evaluation. *Historical Geography:* Analysis of historic landscapes, including: Historic Preservation, Morphology of U.S. Cities, Cultural Landscape Evolution, and the Perception of Past Landscapes. *Geomorphology:* Periglacial, Quaternary studies, coastal. Other interest areas include: Climate, Soils and Biogeography. *Social Geography:* Geographic aspects of social processes and patterns, including: Cognition, Communications/Diffusion, Migration, Voting Behavior, Ethnic and Racial Minorities, Urban Residential Patterns, and Urban Pathologies. *Technical Master's* including: Remote Sensing and Cartography.

Departmental facilities include the Spatial Data Analysis Laboratory with an Earth Resources Data Analysis System (ERDAS-400), as well as cartographic and soils laboratories, a diffractometer and spectrometer, and computer terminals. Other research facilities include a library which is the largest publicly supported university library in the United States, a Map and Geography Library containing an excellent collection of monographs and journals and one of the largest map collections in the country, the Social Science Quantitative Laboratory, and large multiple component computing and graphics systems. The University of Illinois is the site of the international headquarters of the Regional Science Association.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. Minimum standard for admission to the Masters program is a B average, higher for the Ph.D. program. Teaching assistantships, research assistantships and fellowships are available. Currently, one-half time appointments for assistants carry a stipend of about $4600 plus remission of tuition. Nearly all resident graduate students are supported by fellowships, scholarships and assistantships.

FACULTY:

Charles S. Alexander, Ph.D., UC, Berkeley, 1955, Professor—geomorphology (particularly coastal), ecology, field methods, Quaternary and Caribbean studies

James A. Bier, M.S., Illinois, 1955, Instructor—thematic cartography, map production

Marilyn A. Brown, Ph.D., Ohio State, 1977, Associate Professor—environmental cognition, innovation diffusion, contemporary urban ecology

Jerome D. Fellmann, Ph.D., Chicago, 1950, Professor—urban, historical, bibliographic techniques, U.S.S.R.

Thomas D. Frank, Ph.D. Utah, 1979, Assistant Professor--remote sensing, computer cartography

Arthur Getis, Ph.D., Washington, 1961, Professor and Director, School of Social Sciences—settlement theory, spatial patterns, urban analysis

Bruce M. Hannon, Ph.D., Illinois, 1970, Professor—energy use and conservation, environmental planning

Geoffrey J.D. Hewings, Ph.D., Washington, 1969, Professor and Head—transportation, regional development, methods of urban and regional analysis

James O. Huff, Ph.D., Northwestern, 1973, Associate Professor—urban geography, population redistribution, central place theory, mathematical structures

John A. Jakle, Ph.D., Indiana, 1967, Professor—historical and social geography

Donald L. Johnson, Ph.D., Kansas, 1972, Associate Professor—geomorphology, zoogeography, soils, paleoecology, Quaternary studies

John V. O'Loughlin, Ph.D., Pennsylvania State, 1973, Associate Professor—urban, political, social, Europe

Howard G. Roepke, Ph.D., Northwestern, 1953, Professor—industrial location manufacturing, economic development, resource management

Curtis C. Roseman, Ph.D., Iowa, 1969, Professor—social, migration, quantitative

John Thompson, Ph.D., Stanford, 1958, Professor—cultural, historical, Latin America

Colin E. Thorn, Ph.D., Colorado, 1974, Associate Professor—periglacial geomorphology, Quaternary studies, geomorphic paradigms

AFFILIATED FACULTY:

David E. Boyce, Ph.D. (Regional Science), Pennsylvania, 1966, Professor—transportation models and methods, urban location and transportation

Stanley Changnon, M.S., Illinois, 1956, Professor and Chief, Illinois Water Survey—meteorology, climatology

David A. Cobb, M.S. (Library Science), Indiana, 1973, Associate Professor—Map and Geography Librarian

Frank Southworth, Ph.D., Leeds, 1977, Assistant Professor—transportation modeling

Wayne M. Wendland, Ph D., Wisconsin, 1972, Associate Professor and Head, Climatology Section, Illinois State Water Survey—climatology, meteorology, paleoclimatology

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Broadway, Michael John. "U.S. Immigration in the 1970s: Settlement Patterns in Impacts," 1983.*

Davenport, David Paul. "Population Persistence and Migration in New York State: 1855-1860," 1983.* Mf., University Microfilms.

Jackson, Randall Wade. "A Distributional Approach to the Modeling and Simulation of Industrial Systems," 1983.*

Macey, Susan Michele. "Factors Affecting the Adoption of Home-Heating Energy Conservation Measures: A Behavioral Approach," 1982.*

O'Huallachain, Breandan. "The Relationship between Foreign Direct Investment and a Regional Industrial System: An Analysis of Interregional and Intra-Corporation Linkages of Foreign-Owned Manufacturing Establishments," 1982.*

University of Illinois at Chicago

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1964 GRADUATE PROGRAM FOUNDED: 1972

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 28
NOT IN RESIDENCE: 6

HEAD: Gary L. Fowler

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director of Graduate Studies, Department of Geography, P.O. Box 4348, University of Illinois at Chicago, Chicago, Illinois 60680
Telephone (312) 996-3112

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers an M.A. in Environmental Studies and Urban Geography. The program reflects the premise that geography is a spatial science that is concerned with people's relationship with the social, economic and physical environment. Although the graduate curriculum is tailored to the special needs of each student, many choose from curricula such as environmental behavior, environmental management, industrial and commercial development, transportation, and urbanization. Furthermore, student curricula can take advantage of the Geography faculty's affiliations with the Energy Resources Center, Urban Transportation Center, School of Urban Planning and Policy, and the School of Public Health (at the Health Sciences Center). Many students also take advantage of the employment opportunities and training capabilities of the Chicago Area Geographical Information Study (CAGIS), a division of the department specializing in the development and management of information systems and data banks.

The Department of Geography is located in the Behavioral Science Building, which also houses a remote computer terminal room with a highspeed printer, numerous interactive terminals, and a full time consultant. Additionally the department has two computer terminals, an Auto-Trol 3900 (4' x 6') Digitizer, a keypunch, a fully equipped dark room, a complete line of cartographic equipment and several specialized teaching laboratories.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The department, operating on the quarter academic system—with 8 week summer quarters—offers a number of teaching and research assistantships. These assistantships carry tuition and fee waivers, although some tuition-only waivers are also available. Opportunities for part-time professional employment also exist in the Chicago area. The department welcomes students who wish to pursue work toward a master's degree in Geography while maintaining their employment.

Students may be admitted to UIC at the beginning of each quarter. Students desiring financial aid are encouraged to submit their completed applications before April 1, when most assistantships and tuition and fee waivers for the following academic year are awarded. Late applications may also be eligible for financial aid. Requests for further information and applications for admission and financial aid should be addressed to the Director of Graduate Studies.

STAFF:

Lyndon R. Babcock, Ph.D., University of Washington, Director, Environmental Health, University of Illinois at Chicago, Health Sciences Center—environmental quality, pollution studies and policy

James B. Blaut, Ph.D., Louisiana State—cultural, behavioral, geographic learning, history and philosophy, peasant agriculture, Latin America

Raymond M. Brod, M.A., Northeastern Illinois, Cartographer, UIC Cartographic Laboratory

Douglas B. Carter, Ph.D., Washington—climatology, surface environmental conditions, biogeography, North America

Alden S. Cutshall, Ph.D., Ohio State (Emeritus)—regional development, Asia

Edwin H. Draine, Ph.D., Chicago (Emeritus)—environment and resource management and policy, economic, Soviet Union

Gary L. Fowler, Ph.D., Syracuse, Department Head—migration, energy studies and policy, North Africa and the Middle East

Bruce G. Gladfelter, Ph.D., Chicago—geomorphology, geoarcheology, paleogeography and environmental studies (joint appointment with Anthropology)

James E. Landing, Ph.D., Pennsylvania State—cultural, religious, historical, teaching of geography, North America

Albert J. Larson, Ph.D., Nebraska—historical, cultural, rural environments and settlement, cartography, North America, Europe

David A. Merrill, M.A., Illinois at Chicago, Associate Director, CAGIS

David M. Solzman, Ph.D., Chicago—urban, urban environments, economic, philosophy of the landscape

Siim Sõõt, Ph.D., Washington—transportation, economic, quantitative methods, computer cartography, Soviet Union, Europe

Edwin H. Thomas, Ph.D., Northwestern, Director, CAGIS—geographic information systems, urban

Clifford E. Tiedemann, Ph.D., Michigan State—economic, settlement and land use, pattern analysis, cartography (joint appointment with Environmental Health, Health Sciences Center)

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Johnson, Kenneth. "A Benefit/Cost Methodology for Investigating Waterfront Redevelopment Alternatives," 1983

Shiman, Ginnie. "Pedestrian Traffic Flow Patterns and Trip-Making Characteristics in the Central Business District of Chicago," 1983.

Wimpffen, Janos L. "The Akwesasne Mohawks and the International Boundary," 1982.

Indiana State University

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

DATE FOUNDED: 1893 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A. in Geography, M.A. in Geology, M.A. in Earth Science, Ph.D. in Geography. Minors are available in appropriate number of fields.

GRANTED 7/1/82-6/30/83: 4 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 26 M.A., 13 Ph.D.
NOT IN RESIDENCE: 4 M.A., 5 Ph.D.

CHAIRMAN: John E. Oliver

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. John E. Oliver, Department of Geography and Geology, Indiana State University, Terre Haute, Indiana 47809
Telephone (812) 232-6311

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography and Geology is housed in contemporary quarters with space and excellent facilities for research and laboratories. A staff cartographer is available. There are at present a map library, remote sensing laboratory, cartography laboratories, darkrooms, quantitative laboratory, graduate office space and preparation rooms. The department owns a bank of electronic calculators. For field work and research, three vans are available. An experiment station 16 miles away is suitable for soils study, mapping and field laboratory.

The University has a science library in the same building that houses the Department of Geography and Geology. The University acts as a depository for the Superintendent of Public Documents. The map library contains 160,000 maps and a growing aerial photo collection. A Control Data Corporation 171 computer and a Houston Instruments DP8 plotter are available for research through the Computer Center.

The remote sensing laboratory has state-of-art capabilities for machine-assisted processing of spectral data via a remote computer terminal to the Laboratory for Applications of Remote Sensing (LARS)/Purdue University. In addition this laboratory has a GOES weather satellite receiving station, Kelsh plotter, Numonics digitizer, zoom transfer scope, diaze image processing equipment, digital image display, and standard aerial photointerpretation equipment.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on the semester system and has an active summer program of 10 weeks. Students requesting admission must complete application papers. All students must take the Graduate Record Examination. Transcripts and letters of reference must be submitted. Assistantships and Fellowships are available. The amount would depend upon qualifications. Holders of financial assistantships are exempted from tuition charges.

STAFF:

Ted J. Alsop, Ph.D., Oregon State, 1979, Assistant Professor—physical geography, climatology, geomorphology

Donald W. Ash, Ph.D., SUNY Binghamton, 1979, Associate Professor—hydrology, geomorphology

Robert W. Bastian, Ph.D., Indiana, 1968, Professor—historical

William D. Brooks, Ed.D., Indiana, 1969, Professor—physical, cartography

Adelord J. Cantin, M.A., Iowa, 1957, Assistant Professor—physical

John H. Cleveland, Ph.D., Indiana, 1962, Professor—economic geology, petrology

Prodip K. Dutta, Ph.D. candidate, Indiana, Assistant Professor—sedimentary geology/petrology, optical mineralogy

James L. Guernsey, Ph.D., Northwestern, 1957, Professor—land use, resource management

John C. Hook, Ph.D., Iowa, 1956, Professor--physical, astronomy, quantitative

Robert C. Howe, Ph.D., Wisconsin, 1968, Professor—paleontology, remote sensing

Robert C. Larson, Ph.D., Indiana, 1975, Associate Professor—urban

Kamlesh P. Lulla, Ph.D., Bombay, 1974, Assistant Professor—remote sensing, physical

Paul W. Mausel, Ph.D., North Carolina, 1966, Professor—soils, remote sensing

John R. McGregor, Ph.D., Illinois, 1965, Professor—economic, industrial

John E. Oliver, Ph.D., Columbia, 1969, Professor and Chairman—climatology, physical

Donald E. Owen, Ph.D., Wisconsin, 1963, Professor—paleontology, stratigraphy

Akhtar H. Siddiqi, Ph.D., London, 1964, Professor—Asia, economic

Alan L. Swenson, Ph.D., Colorado, 1980, Assistant Professor—structural geology, geophysics

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Beck, Robert L. "The Impact of Indiana's Reclamation Laws on Land Use," 1982.

Westerman, Gary S. "Circulation Patterns and Climatic Systems," 1983.

Master's:

Adams, Kim R. "The Perception of Geography among High-School Pupils and Teachers: A Case Study of Selected Indiana High Schools," 1983.

Dreher, Mark A. "Potential Flood Damage in Honey Creek Township, Vigo County, Indiana," 1983.

Duwelius, John A. "Infrared Photomicrography of Silicate and Opaque Minerals," 1982.

Parrage, Felipe G. "Stratigraphic Study of the B-1 to B-6 Sands in the West Eocene Area in the Coastal Field of the District of Bolivar, Zulia State, Venezuela," 1983.

Indiana University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.A., M.A.T., Ph.D.

GRANTED 7/1/82-6/30/83: 5 M.A., 1 M.A.T., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE:12 M.A. 0 M.A.T. 17 Ph.D.
NOT IN RESIDENCE: 3 Ph.D.

CHAIRMAN: Robert N. Taaffe

FOR CATALOG AND FURTHER INFORMATION WRITE TO: John Odland,
Director of Graduate Admissions, Department of Geography, Indiana University,
Bloomington, Indiana 47405
Telephone (812) 335-5658

PROGRAMS AND RESEARCH FACILITIES: The M.A. and Ph.D. programs of the Geography Department are research-oriented degree programs in the science of geography. Courses in advanced quantitative methods in geography, research design, geographic theory, and models in geography constitute the core of study for both degrees.

Requirements for the M.A. degree: (1) completion of the core courses noted above; (2) completion of a Master's thesis or two research papers and 30 hours credit; (3) completion of a comprehensive examination covering the core courses and the student's research.

The Ph.D. degree involves (1) competence in research skills; (2) completion of an oral and written exam covering the student's major area of specialization within the department and his minor in a related department; and (3) completion of a Ph.D. dissertation.

The M.A.T. degree provides the skills and basic geographical knowledge necessary for teaching geography in secondary schools or junior colleges. Requirements for the M.A.T. degree are 36 credits, of which 30 must be graduate credit; no thesis is required.

Since 1979–80, the Geography Department and the School of Public and Environmental Affairs have offered a combined M.A.–M.S.E.S. program in environmental science and a new Ph.D. degree in Regional Analysis and Planning for students who are interested in careers in planning.

Research facilities include the Geography and Map Branch Library; cartographic, photogrammetric, and photographic equipment; and the Research Computing Center. The department contains a quantitative research laboratory with terminals to the Computing Center.

The Department works very closely with several other divisions of the University including the School of Public and Environmental Affairs, the Water Resources Research Center, the Department of Transportation in the School of Business, the Russian and East European Institute, the Department of East Asian Languages and Cultures, African Studies, and Latin American Studies.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University is on the semester system. Admission to the M.A. program requires an undergraduate major in geography or its equivalent. The Ph.D. program requires an M.A. in geography from Indiana or its equivalent. Academic year financial awards include NDEA, Title IV; National Science Foundation Fellowships; University Fellowships; graduate teaching assistantships ($4000 and over for 10 months). The Department also awards a fairly large number of Departmental Fee Remission Awards which will pay all fees up to 12 hours credit, except for allocated fees which are currently $78 per semester. For an out-of-state student, the combined assistantship and fee-remission represents an award of over $7000. Assistants may carry up to 12 hours of graduate credit per semester and are expected to work 20 hours per week for the Department. Also available are Graduate Fee Remission Scholarships, Dissertation Year Fellowships ($2000 to $3600), and Doctoral Student Grant-in-Aid awards. Applications for the 1984–85 academic year should be received by March 1, 1984. Notification of awards will be made by April 1. Many graduate students also serve as research assistants on externally funded research projects.

STAFF:

Thomas F. Barton, Ph.D., Nebraska, 1935, Professor Emeritus—urban, conservation, Southeast Asia

Don C. Bennett, Ph.D., Syracuse, 1957, Associate Professor—cultural, urban, Southeast Asia

William R. Black, Ph.D., Iowa, 1969, Professor—economic, transportation, quantitative methods

Dennis Conway, Ph.D., Texas, 1976, Associate Professor—migration, urban

A. Stewart Fotheringham, Ph.D., McMaster, 1980, Assistant Professor—spatial interaction models, transportation, quantitative

Charles E. Greer, Ph.D., Washington, 1975, Associate Professor—China, resource management

Kingsley E. Haynes, Ph.D., Johns Hopkins, 1971, Professor and Director, Center for Urban and Regional Analysis—economic, location theory, geographical methodology

John M. Hollingsworth, M.S., Indiana, 1970, Departmental Cartographer

Robert C. Kingsbury, A.M., Kansas, 1951, Associate Professor—cartography, aerial photography, South Asia

David B. MacKay, Ph.D., Northwestern, 1971, Professor of Marketing and Geography—spatial consumer behavior, cognitive mapping

Theodore K. Miller, Ph.D., Northwestern, 1971, Associate Professor and Associate Director, Center for Urban and Regional Analysis—urban, fluvial, quantitative

John Odland, Ph.D., Ohio State, 1972, Associate Professor—urban, quantitative methods, mathematical models

Greg A. Olyphant, Ph.D., Iowa, 1979, Assistant Professor—geomorphology, mathematical models, Arctic

Lawrence Onesti, Ph.D., Wisconsin, 1973, Associate Professor—fluvial geomorphology, Arctic

Rickie Sanders, Ph.D., Ohio State, 1980, Assistant Professor-migration, urban, sub-Saharan Africa

Daniel Seldin, M.L.S., Maryland, 1973, Geography and Map Librarian

Robert N. Taaffe, Ph.D., Chicago, 1959, Professor—economic, transportation, urban, U.S.S.R. and Eastern Europe

Ernest H. Wohlenberg, Ph.D., Washington, 1970, Associate Professor—economic, natural resources, economic development

ASSOCIATED PROFESSORS IN OTHER DEPARTMENTS:

Robert W. Campbell, Ph.D., Harvard, 1956, Professor—economics

David F. Parkhurst, Ph.D., Wisconsin, 1970, Associate Professor, Public and Environmental Affairs—plant geography

James C. Randolph, Ph.D., Carleton, 1972, Associate Professor, Public and Environmental Affairs—zoology-ecology

George M. Smerk, D.B.A., Indiana, 1963, Professor of Transportation—urban transportation

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Shewmaker, Sherman N. "Variations in Stream Channel Process-Form Relationships in Environmentally Distinctive Regions: Midwest Versus Great Plains," 1982.

Master's:

Al-Mogarry, Mohammed Sa'd. "Curtailment of the Cost per Passenger-Kilometer in Saudia Airlines," 1982.

inamore, Patricia Mary. "The Value of Cartograms as Communication Devices," 1982.

Strietelmeier, Daniel R. "A Flow Simulation Model for Small Ungauged Drainage Basins," 1982.

Williams, Peter Alan. "A Comparative Analysis of Ordinary Least Squares, Production Constrained, and Poisson Spatial Interaction Models," 1982.

IUP—Indiana University of Pennsylvania

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

DATE FOUNDED: 1930 GRADUATE PROGRAM FOUNDED: 1960

DEGREES OFFERED: M.A., M.S., M.Ed.

GRANTED 7/1/82-6/30/83: 0 M.A., 5 M.S.

GRADUATE STUDENTS IN RESIDENCE: 12

CHAIRPERSON: Ruth I. Shirey

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairperson, Department of Geography and Regional Planning, IUP, Indiana, Pennsylvania 15705
Telephone (412) 357-2250

PROGRAMS AND RESEARCH FACILITIES: The M.A. and M.S. programs at IUP provide a common core of course work in geographic philosophy, research, and techniques. The M.S. student must elect a concentration in regional development, regional planning, or cartography while the M.A. student is free to custom design his or her program. Thesis and non-thesis options are available.

The department occupies the ground floor of Leonard Hall. Facilities include the cartography and computer labs, a reading room and map library and graduate student offices.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Applicants must have Bachelor's degree with 2.6 QPA, satisfactory score on GRE, and satisfactory recommendations.

Graduate assistantships available. Full-time students interested in appointments for the academic year should request applications from the Dean of the Graduate School prior to February 1.

STAFF:

Donald J. Ballas, Ph.D., Nebraska, Professor—cultural, historical, Africa
Noland R. Heiden, Ph.D., Michigan, A.I.C.P., Associate Professor—planning
Gopal S. Kulkarni, Ph.D., Pittsburgh, Professor—urban, economic, Asia
Vincent P. Miller, Jr., Ph.D., Michigan State, Professor—political, Europe, regional development
James E. Payne, M.A., North Carolina, Professor—cartography, map and photo interpretation, remote sensing
Ruth I. Shirey, Ph.D., Tennessee, Professor—Latin America, energy, industrial
Leonard P. Tepper, Ph.D., Pittsburgh, Professor—research methods, population, economic
Charles E. Weber, Ed.D., Columbia, Professor— conservation, Asia, land use
Maurice M. Zacur, Ed.D., Pennsylvania State, Professor—geographic education, Pennsylvania

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:
Miller, Clara Ann. "A Study of Perceptual Geography: Gas Well Drilling in the Parks of Indiana County, Pennsylvania," 1983.

The University of Iowa

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 12 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 11 M.A. 25 Ph.D.
NOT IN RESIDENCE: 2 M.A. 2 Ph.D.

CHAIRMAN: David R. Reynolds

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Admissions Coordinator, The University of Iowa, Iowa City, Iowa 52242
Telephone (319) 353-3131

PROGRAMS AND RESEARCH FACILITIES: The Iowa M.A. and Ph.D. programs have long held a reputation for excellence in quantitative geographical analysis. Research encompasses both current policy issues and longer-range theoretical concerns.

A Master's Program has been designed to provide special training for students interested in non-academic careers. Graduates of the program are prepared for positions with private firms or governmental agencies involved in market analysis, urban and transportation analysis, land development, environmental impact studies, resource evaluation, health services planning, and related areas.

In conjunction with other departments on campus, Geography has recently initiated a Regional Science Program. This will complement the interdisciplinary program in Transportation that has been flourishing for over a decade.

Areas of specialization include:

- environmental management and policy analysis
- location theory
- behavioral geography
- regional growth and international development
- political geography
- transportation planning and policy analysis.

The faculty strives to maintain an atmosphere in which each student can attain not only the intellectual rigor growing out of close student-faculty research interests, but also the excitement of truly independent creativity.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: In determining the admission of a student to its graduate program, the department considers the total record of each student individually, including: (1) undergraduate grade point average (admitted on condition if GPA is below 2.75); (2) scores on the Graduate Record Examination Aptitude Test (applicants for assistantships must submit GRE scores of 1100 on verbal and quantitative examinations combined); (3) at least three letters of recommendation; (4) an essay in which the applicant sets forth the reasons for wanting to continue the study of geography at the University of Iowa.

Regular departmental Teaching and Research Assistantships carry stipends upwards from $6600 for the two-semester academic year. Also available are a limited number of Teaching and Research Fellowships which provide stipends of at least $8000 for year-round support, plus full tuition scholarships for up to four years. Funded projects also provide for research assistants. Of 39 full-time students in 1982-1983, 87 percent received funding from University or government sources.

The 1983-84 tuition rate for in-state graduate students is $1,280 for the academic year. Out-of-state students pay $2,984. All teaching and research assistants are charged at in-state rates. Deadline for applicants who wish to be considered in the initial round of financial aid awards is February 15.

STAFF:

John W. Fuller, Ph.D., Washington State, 1968, Professor (joint with Urban and Regional Planning and Economics)—transportation and policy analysis

Rex Honey, Ph.D., Minnesota, 1972, Associate Professor—political geography, urban and regional policy analysis

Joel L. Horowitz, Ph.D., Cornell, 1967, Associate Professor (joint with Economics)—transportation systems analysis, discrete choice analysis, econometrics

Andrew M. Isserman, Ph.D., Pennsylvania, 1975, Associate Professor (joint with Urban and Regional Planning and Economics)—methods of urban and regional analysis, regional development and policy, spatial demographic analysis

Mary Ann Lee, Ph.D., Hawaii, 1979, Assistant Professor—ecosystem analysis, biogeography

James B. Lindberg, Ph.D., Wisconsin, 1963, Professor—industrial location, energy resources and use, regional development

Michael L. McNulty, Ph.D., Northwestern, 1966, Professor—geographic perspectives on development, urban, Africa

R. Rajagopal, Ph.D., Michigan, 1973, Associate Professor—resource and environmental management, information systems

David R. Reynolds, Ph.D., Northwestern, 1966, Professor and Chairman—location theory and collective decision-making, behavioral analysis, political

Gerard Rushton, Ph.D., Iowa, 1964, Professor—location theory, medical, spatial planning in developing countries, behavioral

Graham A. Tobin, Ph.D., Strathclyde, 1978, Assistant Professor—water resources, hydrology, flood hazard and environmental management

EMERITUS FACULTY:

Clyde F. Kohn, Ph.D., Michigan, 1940, Professor

Harold H. McCarty, Ph.D., Iowa, 1929, Professor

ADJUNCT FACULTY:

Marie Rose Popp Klugman, Ph.D., Iowa, 1981, Adjunct Assistant Professor—climatology

Mickey Lauria, Ph.D., Minnesota, 1980, Assistant Professor, Graduate Program in Urban and Regional Planning—community development

Jordan J. Louviere, Ph.D., Iowa, 1973, Associate Professor in Marketing—behavioral geography, consumer spatial behavior, transportation and travel choice, human decision-making and choice

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Eagle, Thomas Cole. "A Context-Dependent Model of Spatial Choice," 1982.

Hesler, James Lewis. "Within-Order Spatial and Temporal Variation in Drainage Network Structure in Developing Rill Systems," 1982.

Master's:

Anderson, Ann Louise Lohrenz. "Hazardous Wastes in Iowa: Sources, Composition, Distribution, and Policy Implications," 1983.

Gross, William Charles. "Determinants of Soil Conservation Expenditures in the Standard Metropolitan Statistical Areas of Iowa," 1983.

The Johns Hopkins University

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL ENGINEERING

DATE FOUNDED: 1948 GRADUATE PROGRAM FOUNDED: 1948

DEGREES OFFERED: M.A., M.S.E., Ph.D.

GRANTED 7/1/82-6/30/83: 10 Masters, 9 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 11 Masters 38 Ph.D.
NOT IN RESIDENCE: 0 Masters 10 Ph.D.

CHAIRMAN: M. Gordon Wolman

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. M. Gordon Wolman, Chairman, Department of Geography and Environmental Engineering,
The Johns Hopkins University, Baltimore, Maryland 21218
Telephone (301) 338-7090

PROGRAMS AND RESEARCH FACILITIES: Program objectives include the study of (1) the natural processes of land, air, and water including underlying physical, chemical and biological principles, (2) the relationship between man as an individual and as a member of social groups to his natural and social environment; and (3) systems analysis and economics for public decision making. Specific graduate programs are tailormade and designed to permit each student to focus upon topics of interest and to develop competence in fundamental skills essential to research in his chosen field and problem area. In pursuit of these objectives students are expected to pursue work beyond the confines of the Department. Areas of special strength are: a) surficial earth processes of geomorphology, plant geography, soils, and hydrology; b) environmental biology including aquatic biology, ecology and population dynamics; c) human spatial location, with emphasis on behavioral models, perception of the natural and social environment, models of urban population dynamics, and regional science; d) engineering science and technology with emphasis on sanitary engineering systems analysis, and physical and chemical processes in the environment.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. *Admission requirements:* interests in the field coincident with those of the Department, and evidence of competence to pursue graduate work at the M.A., M.S.E., or Ph.D. level; *Financial Aid:* fellowships, stipends, research support including Federal programs available.

STAFF:

Dr. John Boland, Professor—environmental engineering
Dr. Grace S. Brush (part-time)—palynology, plant geography
Dr. Lucien Brush, Professor—hydraulics, hydrology
Dr. John Cady, Lecturer—soil science
Dr. Jared Cohon, Professor—environmental systems
Dr. John Dyckman, Professor—urban and regional planning, international urbanization
Dr. Jack Fisher, Professor—urban studies, comparative planning
Dr. Grant Garven, Assistant Professor—groundwater flow in permeable media
Dr. Jerome Gavis, Associate Professor—chemical and biological processes
Dr. Steve Hanke, Professor—resource economics
Dr. David Harvey, Professor—geography and social theory
Dr. Charles ReVelle, Professor—environmental systems
Dr. Alan T. Stone, Assistant Professor—environmental engineering
Dr. M. Gordon Wolman, Professor—geomorphology, water resources

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Allen, Julia. "Deforestation, Soil Degradation, and Wood Energy in Developing Countries," 1983. Mf., University Microfilms.

Davis, Frank. "The History of Submerged Aquatic Vegetation at the Head of Chesapeake Bay: A Stratigraphic Study," 1982. Mf., University Microfilms.

Goswami, Dulal. "Brahmaputra River, Assam (India): Suspended Sediment Transport, Valley Aggradation, and Basin Denudation," 1982. Mf., University Microfilms.

Lintner, Stephen. "The Historical Physical Behavior of the Lower Susquehanna River, Pennsylvania, 1801-1976," 1983. Mf., University Microfilms.

Miller, Andrew. "Shore Erosion Processes, Rates, and Sediment Contributions to the Potomac Tidal River and Estuary," 1983. Mf., University Microfilms.

Moy, Wai-See. "Reliability, Resilience, and Vulnerability in Reservoir Operation," 1983. Mf., University Microfilms.

Nofal, Maria. "Dynamics of the Motor Vehicle Industry in Argentina," 1983. Mf., University Microfilms.

Smith, Neil. "Uneven Development: The Production of Nature under Capitalism," 1982. Mf., University Microfilms.

Sveinbjornsson, Hermann. "The World Aluminum Industry and Its Host Countries: Case Studies of Electric Energy Policy Formulation," 1983. Mf., University Microfilms.

Master's:

Hirsch, Paul. "Slope Angle and Debris Size on Hillslopes on Crystalline Rocks in the Mojave Desert, California," 1983. Mf., University Microfilms.

Khorsandian, Farid. "Rural Water Supply Planning and Programming in Less-Developed Countries," 1982. Mf., University Microfilms.

Smith, Stephen L. "Multiobjective Modeling of Noxious Facility Location," 1982. Mf., University Microfilms.

Wolfe, Lawrence. "An Econometric Analysis of Motor Gasoline Demand," 1983. Mf., University Microfilms.

Kansas State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1961

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 6

HEAD: Stephen E. White

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor David E. Kromm, Department of Geography, Kansas State University, Manhattan, Kansas 66506
Telephone (913) 532-6727

PROGRAMS AND RESEARCH FACILITIES: Advanced work consisting of classes and seminars is offered as part of the Master of Arts curriculum. Close supervision of the thesis research, and frequent visits by geographers from other universities, help to provide a thorough and well-balanced program. The moderate size of the Geography Department makes possible an informal atmosphere and a close rapport between faculty and graduate students.

A cartographic/remote sensing laboratory, an environmental geography laboratory, photographic reproduction equipment, remote sensing imagery, a collection of topographical maps for research purposes, and a reference library are all contained within the Department. The University library, with its large collection of geographical journals and the complete American Geographical Society research catalog, is nearby.

Other parts of the University offer opportunities for enrichment of the graduate student's program. Advanced study is possible in such areas as regional economic analysis, regional and community planning, natural resources management, transportation engineering, agriculture, and the South Asia Center.

The attractive university campus, rolling and tree-shaded, is located in Manhattan, a town with a population of 33,000. Just to the north of the town is the 25-square-mile Tuttle Creek reservoir and an attractive area of the Flint Hills that was considered by the Interior Department for a new national park.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on a semester system. Admission to the Graduate School ordinarily requires a "B" average in the junior and senior years plus three letters of recommendation. In some cases applicants with less than a "B" average may be admitted on a provisional basis. Six graduate teaching assistantships are available.

STAFF:

Charles Bussing, Ph.D., Nebraska, 1968, Assistant Professor—cultural, agricultural, Latin America

David E. Kromm, Ph.D., Michigan State, 1967, Professor—resource management, environmental behavior, Eastern Europe, environmental education

M. Duane Nellis, Ph.D., Oregon State, 1980, Assistant Professor—land use, remote sensing applications

Huber Self, M.S., Oklahoma State, 1947, Emeritus Professor—physical, cartography, Kansas

H. L. Seyler, Ph.D., Indiana, 1971, Associate Professor—economic-urban, regional development, quantitative methods

William R. Siddall, Ph.D., Washington, 1959, Professor—transportation, environmental quality, Anglo-America

Stephen L. Stover, Ph.D., Wisconsin, 1960, Associate Professor—agricultural, historical, Oceania

Stephen E. White, Ph.D., Kentucky, 1974, Associate Professor—population and migration, environmental perception, social

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Bascom, Johnathan B. "The Nature of Refugee Resettlement Patterns in Africa," 1983.

Fridirici, Roxane M. "Kansas through the Eyes of Kansans: Perceptions of Kansas Landscapes," 1983.

Liang, Mei-Huey. "Land-Use Changes in the Area Surrounding Salina, Kansas, 1965-1980," 1982.

Schott, Stephan. "National Park Management Policies and Functions in the United States and West Germany," 1982.

University of Kansas

DEPARTMENT OF GEOGRAPHY-METEOROLOGY
DATE FOUNDED: 1947 GRADUATE PROGRAM FOUNDED: 1958
DEGREES OFFERED: M.A., M. Phil., Ph.D.
GRANTED 7/1/82-6/30/83: 5 M.A., 1 M.Phil., 2 Ph.D.
GRADUATE STUDENTS IN RESIDENCE: 37 M.A. 16 Ph.D.
NOT IN RESIDENCE: 3 M.A. 6 Ph.D.
CHAIRMAN: John P. Augelli

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Student Affairs Committee, Department of Geography-Meteorology, University of Kansas, Lawrence, Kansas 66045
Telephone (913) 864-5143

PROGRAMS AND RESEARCH FACILITIES: Departmental options for graduate programs emphasize systematic fields and selected regional coverage. Physical geography is well represented in geomorphology (supplemented by work in geology), plant geography, soils, and climatology (especially water resources and microclimatology). Well-equipped soils, vegetation, palynology, and atmospheric science laboratories are available for research. Remote sensing facilities are housed within the Department and at the Space Technology Center. Research and course work are conducted in visual and ditigal image analysis, and in geographic information systems. Cartography has long been a strong systematic emphasis within our geography curriculum. It is supported by production and computational facilities within the Department as well as plotting facilities in the computer center. Within the broad scope of human geography, concentrations are available in cultural-historical and urban-economic geography. Currently, cultural research includes the historical perception of the Midwest, dynamic modeling and computer simulation of population settlement, and insurgency and geopolitics. In urban-economic geography, energy policy, resource management, travel behavior research, and migration and residential mobility are emphasized. A sequence of courses and seminars on quantitative methods as applied to the various subfields of geography is also available. Research and teaching are supported by computational and cartographic laboratories, access to the University's computer, and the Department's remote access and graphics terminal facilities.

Regional emphases, aside from elements of North American geography, are possible in Latin America, Europe-USSR, and East and Southeast Asia. Opportunities for regional competence in geography are enhanced by well-developed interdisciplinary language and Area Studies Centers for East Asia, Latin America, and Eastern Europe-USSR. All three have been designated "National Resource Centers."

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Admission to graduate standing requires superior academic performance at the undergraduate level and demonstrated competence in basic courses in physical, cultural, economic, quantitative methods, cartography and a regional course. Submission of GRE scores is required. An application fee is not required. The University follows the two-semester system with fifteen credit hours as the usual load. Half-time assistants are limited to a maximum of ten hours of classwork. Thesis hours, directed readings, and some course work are also offered during an eight-week summer session.

The Department offers a thesis and non-thesis track at the Master's level. The M.A. thesis program requirement is for thirty hours of graduate-level work, including the thesis. Two seminars and distribution requirements are designed to provide a core of training in regional, systematic fields, and skills. These are supplemented by courses in the student's area of interest. The non-thesis track requires thirty-six hours of graduate-level work, including two research seminars. Students electing this option are not normally admitted to the Ph.D. program without completing a thesis in addition to the thirty-six hour requirement.

A greater degree of specialization is expected for the Ph.D. Sixty hours beyond the M.A. are required, including twenty to thirty hours of work on the dissertation. There are various options to satisfy the foreign languages and/or other research skills requirement, including reading knowledge of one foreign language and proficiency in a research skill related to the candidate's area of specialization.

Several sources of financial aid are available to graduate students. Teaching and research assistantships within the Department, the Space Technology Center, the Center for Public Affairs, the Area Studies Centers, and the Geological Survey are the primary sources of aid; funds are also available for the summer period. Other sources of support include Graduate School Honors Fellowships, Dissertation Fellowships, work study, student loans, and the several categories of grants from the Office of Education and the National Science Foundation, etc.

STAFF:

Robert T. Aangeenbrug, Ph.D., Wisconsin, 1965, Professor—economic, geographic information systems, urban, Western Europe

John P. Augelli, Ph.D., Harvard, 1951, Professor and Chairman—Latin America, political, settlement

John C. Davis, Ph.D., Wyoming, 1967, Adjunct Professor—statistical methods, computer graphics

Leslie Dienes, Ph.D., Chicago, 1968, Professor—industrial, economic, Eastern Europe and the Soviet Union

Joe R. Eagleman, Ph.D., Missouri, 1963, Professor—meteorology, climatology, water and energy budgets, severe weather

George F. Jenks, Ph.D., Syracuse, 1950, Professor—cartography, computer application to map symbolization, conservation

William C. Johnson, Ph.D., Wisconsin, 1976, Associate Professor—geomorphology, plant geography, palynology

Walter M. Kollmorgen, Ph.D., Columbia, 1940, Emeritus Professor of Geography

A. William Kuchler, Ph.D., Munich, 1935, Emeritus Professor of Geography

Glen A. Marotz, Ph.D., Illinois, 1971, Professor—climatology, plant geography, field methods

Edward A. Martinko, Ph.D., Kansas, 1976, Adjunct Assistant Professor—applied remote sensing, ecological systems

George F. McCleary, Jr., Ph.D., Wisconsin, 1969, Associate Professor—map making and cartography

Robert W. McColl, Ph.D., Washington, 1964, Professor—political, traditional societies in transition, China and Southeast Asia

Robert E. Nunley, Ph.D., Michigan, 1958, Professor—population, Middle America, microcomputers

Valerie Preston, Ph.D., McMaster, 1978, Assistant Professor—behavioral, urban/social, quantitative methods

James Shortridge, Ph.D., Kansas, 1972, Associate Professor—cultural, North America, historical

Terry A. Slocum, Ph.D., Kansas, 1980, Assistant Professor—cartography, computer mapping, information systems, quantitative methods

Thomas R. Smith, Ph.D., Columbia, 1943, Emeritus Professor of Geography

Curtis J. Sorenson, Ph.D., Wisconsin, 1973, Associate Professor—soils, soils geomorphology, physical, Quaternary studies, field methods

T. H. Lee Williams, Ph.D., Bristol, 1977, Associate Professor—remote sensing, geographic information systems, quantitative methods, physical

Robert F. Wiseman, Ph.D., Illinois, 1973, Associate Professor—urban, economic, social gerontology

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Butler, David R. "Late Quaternary Glaciation and Paleoenvironmental Changes in Adjacent Valleys, East-Central Lemhi Mountains, Idaho," 1982.* Mf., University Microfilms.

Shaklee, Ronald V. "Barrier Use and Urban Territoriality," 1983.* Mf., University Microfilms.

Master's:

Shea, K. Stuart. "Region Perception Variability on Dot Maps," 1983.

Takahashi, Shigeo. "Structure and Effects of Multistop Trips," 1982.

Kent State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1914 GRADUATE PROGRAM FOUNDED: 1935

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 2 M.A., 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 15 M.A. 16 Ph.D.
NOT IN RESIDENCE: 14 M.A. 16 Ph.D.

CHAIRMAN: Bart J. Epstein

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Brian P. Holly, Graduate Program Coordinator, Department of Geography, Kent State University, Kent, Ohio 44242
Telephone (216) 672-2045

PROGRAMS AND RESEARCH FACILITIES: The Department offers programs of study leading to Master of Arts and Doctor of Philosophy degrees. The Master of Arts degree emphasizes the acquisition of research skills and expertise in the subfields of Geography, and is planned for students expecting to pursue a professional career in industry, government or education or who intend to study for the Ph.D. degree. The Ph.D. program is designed for the student who wishes to conduct research in a specialized area of Geography. An individualized program of study is designed by the student in conjunction with an advisory committee comprised of three Geography faculty and one non-geographer from a cognate discipline. A program of coursework and independent research is planned around a proposed dissertation topic. Candidacy examinations involve both written specialties and an oral defense of the dissertation proposal.

Graduate level work can be pursued under a number of specializations including quantitative modelling, industrial, urban, behavioral, marketing, recreation, energy and water resources, geomorphology, climatology, cartography, regional economic development, cultural, Soviet Union, Eastern Europe, sub-Saharan Africa, and India.

Research facilities include a 1.3 million volume library, the University's map collection (130,000 sheets) housed in the Geography Department, a computer based information system which provides data on the location and availability of books and serials within the On-line College Library Consortium (OCLC). On line literature searches and data bases are also available.

University computer facilities include a Burroughs 6812, DEC/VAX 11/780, and a Honeywell 66/DPS with both batch and timesharing capability. The system supports a CalComp drum plotter, advanced software and text editing systems, as well as a large self instruction center.

The Department maintains cartography, photogrammetry and computing laboratories as well as a darkroom. Specialized equipment includes Tektronix graphics terminal, hardcopy unit and digitizer, keypunch, reflecting projectors, stereoscopes, stereoplotters, editwriter, headliners, transits, drafting equipment, and meteorological monitoring stations.

Situated in urbanized northeastern Ohio, the University has ready access to a variety of research environments: large cities, small towns, agricultural regions and the Appalachian Highlands.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Kent State University operates on a semester system.

All applicants for admission to the M.A. and Ph.D. programs must meet the requirements of the Graduate College and the Department. A minimum grade point average of 2.75 on a 4.0 scale or its equivalent is required for regular admission. Applicants must have the equivalent of either Kent State's B.A. degree in Geography (for M.A. program) or M.A. in Geography (for Ph.D. program). Any deficiencies can be made up after admission. A minimum of thirty-two hours of credit are required for the M.A. degree. Sixty semester hours beyond the Master's degree are required for the Ph.D., with thirty of these credits assigned to the dissertation.

Applications are encouraged from qualified students representing all minority groups, the physically disabled, and women.

Financial aid is available in the form of Graduate Assistantships valued at $4000 for M.A. students and $5000 for Ph.D. students, Doctoral Teaching Fellowships at $5200 and University Fellowships (non-service) at $4000 per academic year. Research Assistantships from funded research projects are sometimes available. All appointments provide a partial fee remission of $934 per academic year. All appointees are classified as Ohio residents for fee purposes. Financial aid is not normally available during the summer.

STAFF:

Surinder M. Bhardwaj, Ph.D., Minnesota, 1970, Professor—cultural, India

Erich F. Bordne, Ph.D., Syracuse, 1954, Professor—climatology, water resources, conservation, North America, Western Europe

Bart J. Epstein, Ph.D., Clark, 1956, Professor and Chairman—urban, marketing, urban field studies, applied, land use planning

Frank A. Erickson, Ph.D., Illinois, 1973, Assistant Professor—resources, Latin America, rural field studies

Milton E. Harvey, Ph.D., Durham (U.K.), 1966, Professor—regional analysis, behavioral, recreation, methodology

Jordan A. Hodgkins, Ph.D., Syracuse, 1959, Professor of Soviet Geography—economic, natural resources, energy resources, U.S.S.R. and Eastern Europe

Brian P. Holly, Ph.D., Michigan State, 1974, Associate Professor—urban, industrial, economic,computer cartography

Richard T. Lewis, Ph.D., Syracuse, 1970, Assistant Professor—historical, urban, economic, United States

Hallock F. Raup, Ph.D., UC, Berkeley, 1935, Emeritus Professor—cultural, historical toponymy, Anglo-America

James A. Rinier, M.A., Kent State, 1950, Professor—physical, soils, conservation, North America, Western Europe, rural field studies

Alan J. Woods, Ph.D., UCLA, 1978, Assistant Professor—physical, coastal, air photo interpretation, cartography

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Allensworth, John M. "Changes in the Socio-Spatial Morphology of Panama City, Panama: A Study in Comparative Intra-Urban Form," 1982.* Mf., University Microfilms.

Constantinou, Stavros T. "Trends and Tendencies in Greek-American Ethnicity," 1982.* Mf., University Microfilms.

Despres, Susan S. "The Spatial Dynamics of an Organized Marketing System: A Case Study of Community Shopping Centers in the Akron Metropolitan Area," 1982.* Mf., University Microfilms.

Master's:

Leahy, Lawrence. "Beach Ridges and Paleogeography between Punta Rosarito and Miller's Landing, Baja California, Mexico," 1982.

Linkhart, Glen E. "Use of Peat Fuel in the Soviet Union's Energy Balance," 1982.

University of Kentucky

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1944 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 3 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 11 M.A. 12 Ph.D.
NOT IN RESIDENCE: 4 M.A. 3 Ph.D.

CHAIRMAN: Stanley D. Brunn

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Karl B. Raitz, Director of Graduate Studies, Department of Geography, University of Kentucky, Lexington, Kentucky 40506-0027
Telephone (606) 257-2931 or 257-6948

PROGRAMS AND RESEARCH FACILITIES: The Department offers a flexible approach to graduate education in geography. Except for core courses on concepts in geography, research design, quantitative methods, and the development of geographic thought, each graduate student has the responsibility to formulate his/her own program of study and research. Graduate advisors approve each student's research interests and academic goals. Fields of concentration include:

CULTURAL GEOGRAPHY OF THE UNITED STATES - Urban and rural settlement patterns and processes, past and present; distribution and interaction of ethnic groups.

GEOGRAPHIC ANALYSIS - Computer modelling, computer cartography; locational analysis; diffusion simulation; geographic information systems; normative models.

GEOGRAPHY OF THE THIRD WORLD - Problems of development in Africa, Latin America, South Asia, and especially Southeast Asia; topics include population, urbanization, industrial development, transportation, political-social issues, and economic growth.

INDUSTRIAL GEOGRAPHY - Location theory; nonmetropolitan industrialization; industrial development; spatial analysis of manufacturing systems.

MEDICAL GEOGRAPHY - Health care delivery; space, time, and illness behavior; epidemiology; disease ecology.

POLITICAL GEOGRAPHY - Viability of political units; political development; economic interdependence; electoral geography; governmental policy; organization of space.

POPULATION GEOGRAPHY - Dynamics of population growth and change; internal migration.

REGIONAL DEVELOPMENT - Economic, social, and political problems within developed countries especially Appalachia and the southeastern United States.

RURAL GEOGRAPHY - Land use policy; settlement; agriculture; transport systems; resource policies.

SOCIAL GEOGRAPHY - Ethnic and minority groups; aging; welfare issues; social impact assessment; environmental perception; technological hazards.

TRANSPORTATION GEOGRAPHY - Influence of transport systems on human activity; route locations; network flows; regulation impact; commuting behavior.

URBAN GEOGRAPHY - Basic principles and theories of urban systems; social geography of the city; geographies of growth.

Department offices and the newly equipped and staffed Cartographic Laboratory are on the fourteenth floor of the modern Patterson Office Tower. The University Library and Computing Center (IBM 370) are excellent research facilities. The M.I. King Library has a special Appalachian collection of the papers of the prominent Kentucky geographer, Ellen Churchill Semple, and a separate Map Department. Related research facilities available on campus include an Appalachian Center, a Center of Gerontology, a Center for Public Administration, an Institute for Mining and Mineral Research, and a Tobacco and Health Research Institute. The University also is a sponsor of the Oak Ridge Associate Universities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The academic year consists of two semesters and two summer sessions. An undergraduate grade-point average of 3.0 (A = 4.0) and a combined GRE score of 1000 are desirable for admission to the Master's Program. A grade-point average of 3.50 in graduate work and a combined GRE score of 1200 are desirable for admission to the Ph.D. program. GRE scores should be submitted with application materials. Prospective students should submit two official transcripts of all previous college work and a written application at least two months before anticipated entrance. The department offers a number of teaching assistantships with beginning stipends of about $450 per month for the academic year. Applications for fellowships must be submitted on official forms not later than February 1; assistantship applications must be submitted not later than March 1.

STAFF:

W. A. Bladen, Ph.D., Kentucky, 1972, Associate Professor—political, regional planning, Appalachia

Stanley D. Brunn, Ph.D., Ohio State, 1966, Professor and Chairman—social, political, urban, futures

Percy H. Dougherty, Ph.D., Boston, 1980, Visiting Assistant Professor—karst, hydrology, climate geomorphology, computer cartography, remote sensing

P. P. Karan, Ph.D., Indiana, 1956, Professor—urban and regional planning, political and economic, research methods. Central and South Asia

Thomas R. Leinbach, Ph.D., Pennsylvania State, 1971, Professor—transportation, industrial, regional development, quantitative methods, Southeast Asia

Gyula Pauer, Ph.D., Kentucky, 1983, Cartographic Laboratory Director—thematic maps, production cartography, East Europe

Lizbeth Ann Pyle, Ph.D., Minnesota, 1983, Assistant Professor—resource management, land use policy, agriculture, U.S. and Canada

Karl B. Raitz, Ph.D., Minnesota, 1970, Professor and Director of Graduate Studies—cultural, settlement, ethnic, field methods, U.S. and Canada, Appalachia

Gary W. Shannon, Ph.D., Michigan, 1970, Professor—medical, urban, social

Susan Trussler, Ph.D. candidate, Pennsylvania State, Part-time Instructor—economic, transportation, quantitative land use

Richard Ulack, Ph.D., Pennsylvania State, 1972, Associate Professor—population, migration, economic development, Southeast Asia, Appalachia

W. A. Withington, Ph.D., Northwestern, 1955, Associate Professor—cultural, urban development, Southeast Asia, Kentucky

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Pauer, Gyula. "Residential Land Developers' Behavior in Lexington, Kentucky," 1983.

Saber, Mabrouk Mohamed. "Land Settlement in the Libyan Sahara: The Kufra Settlement Project," 1983.

Master's:

Crow, Kelley. "Factors Influencing the Use of Planned Parenthood Services; A Spatial Perspective," 1982.

Pulaski, Paula. "Solid-Waste Management Approaches; A Delphi Study of Connecticut Policy Makers," 1982.

Vance, Dorothy. "Neighborhood Perception and Housing Attributes as Factors in Residential Relocation: A Survey of Priorities among Recent Homebuyers in Lexington," 1983.

Louisiana State University

DEPARTMENT OF GEOGRAPHY AND ANTHROPOLOGY

DATE FOUNDED: 1928 GRADUATE PROGRAM FOUNDED: 1933

DEGREES OFFERED: M.N.S. in Geography; M.A., M.S. in Geography; M.A. in Anthropology; Ph.D. in Geography

GRANTED 7/1/82–6/30/83: 4 Masters, 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 16 M.A. 18 Ph.D.
NOT IN RESIDENCE: 1 M.A. 2 Ph.D.

CHAIRMAN: Milton B. Newton, Jr.

FOR CATALOG AND FURTHER INFORMATION WRITE TO: M.E. Richardson, Graduate Coordinator, Department of Geography and Anthropology, Louisiana State University, Baton Rouge, Louisiana 70803
Telephone (504) 388-5942

PROGRAMS AND RESEARCH FACILITIES: The department emphasizes cultural, historical, and physical geography. Settlement, agricultural, and historical geography and cultural ecology in the southern United States, the tropics, Latin America, and Africa and South Asia encompass most of the attention of cultural and historical geographers. The combination of geography and anthropology in a single department provides students of the cultural landscape with a unique opportunity to select methods from each discipline.

Physical geographers deal mainly with alluvial and coastal morphology, water-budget climatology, and closely related aspects of vegetation and soils. Regional emphases include the southern United States, the tropics, Latin America, and the Arctic. Interested students may also study with the Department of Geology, the Coastal Studies Institute, and the Center for Wetland Resources.

Research techniques are vital to the training in both the cultural and physical curricula, geographical information systems, and courses in aerial photography, remote sensing, cartography, computer cartography, and statistics are offered. Students may specialize in standard and computer cartography. Fieldwork is especially encouraged and several trips are planned. Research by faculty and graduate students is under way in Central America, Mexico, Peru, West Africa, India, Pakistan, France, Japan, China, and throughout the Southern U.S.

The 1.9-million-volume library is especially strong in geography and anthropology. An outstanding journal collection comprises nearly all major titles and very many minor ones. The Cartographic Information Center includes a half-million items. Aerial photo collections include coverage of Louisiana, the Gulf Coast, Mexico, and parts of southeast Asia. Facilities for cartographic, aerial photo, and remote sensing interpretation, laboratories for sediment analysis, biogeography, and palynology, an up-to-date computer graphics center with terminals in the department and microcomputers are available.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Selection is based on compatibility of interests with departmental programs; on grades, letters of recommendation, and Graduate Record Examination scores. The LSU Graduate School requires an undergraduate grade point average of at least 2.5, plus acceptable GRE scores. An applicant for financial aid should have a GPA of at least 3.0 and a GRE of at least 1000.

Graduate Assistantships start at $4200 for nine months and include the waiver of tuition (including nonresident fee), except for $75 per semester University fee and $25 transportation fee per semester. During 1982-1983, of 54 graduate students in residence, 33 received support. Federation Fellowships ($10,000) are available to outstanding applicants. Research Assistantships are occasionally available to the highly qualified student. Grants for student field work are available through the Robert C. West Field Research Fund. The William G. Haag Prize may be awarded for outstanding graduate papers. Employment is available to qualified cartography students.

FULL-TIME STAFF:

Nigel J. R. Allan, Ph.D., Syracuse, 1978, Assistant Professor—biocultural geography, South and Southwest Asia

Ernie Atkins, M.S., Louisiana State, 1969, Research Associate, Assistant State Climatologist

Jill Brody, Ph.D., Washington, 1982, Assistant Professor—linguistics, anthropology, Maya region

Roland E. Chardon, Ph.D., Minnesota, 1961, Professor—cultural, Latin America, coastal geography

William V. Davidson, Ph.D., Wisconsin-Milwaukee, 1972, Associate Professor—cultural, historical, Caribbean, Central America

Jay D. Edwards, Ph.D., Tulane, 1970, Associate Professor—anthropology, folklore, vernacular architecture, Latin America

Sam B. Hilliard, Ph.D., Wisconsin, 1966, Alumni Professor—historical, agricultural, Anglo-America

Richard H. Kesel, Ph.D., Maryland, 1971, Professor—geomorphology, soils, biogeography

Philip B. Larimore, M.S., Virginia, 1954, Assistant Professor—traditional, computer, and historical cartography and scientific graphics

Linda McQueen, B.A., Louisiana State, 1961, Managing Editor, Geoscience and Man

Stephan W. Miller, M.S., Florida, 1976, Assistant Professor—geography, geographical information systems, computer cartography, hydrology

Ann Marie Mires, M.A., Arkansas, 1982, Research Associate—physical and forensic anthropology

Robert A. Muller, Ph.D., Syracuse, 1962, Professor—climatology, hydrology, North America

Joyce E. Nelson, M.S., Louisiana State, 1969, Cartographic Information Specialist —Louisiana place names

Milton B. Newton, Jr., Ph.D., Louisiana State, 1967, Professor—cultural, prehistoric settlement, Louisiana, U.S. Southeast, forensic geography

Charles E. Orser, Jr., Ph.D., Southern Illinois, 1980, Assistant Professor—historical archaeology

Douglas W. Owsley, Ph.D., Tennessee, 1978, Assistant Professor—physical anthropology, paleodemography, forensic anthropology

Ann Felice Ramenofsky, Ph.D., Washington, 1982, Assistant Professor—prehistorical archaeology

Miles E. Richardson, Ph.D., Tulane, 1965, Professor -material culture and behavior, Spanish America

Donald E. Vermeer, Ph.D., UC, Berkeley, 1964, Professor—cultural, physical, Africa

H. J. Walker, Ph.D., Louisiana State, 1960, Boyd Professor—alluvial and coastal morphology, geomorphology, Arctic

Positions to be filled: hydroclimatology, biogeography, coastal geomorphology, and coastal cultural ecology.

PART-TIME STAFF:

Ernest S. Easterly III, Ph.D., Louisiana State, 1980, Salzburg, 1981, Adjunct Assistant Professor—geography, political resources, law of the sea, forensic geography

Marjorie R. Esman, Ph.D., Tulane, 1981, Adjunct Assistant Professor—anthropology, ethnic identity, Cajun Louisiana

William G. Haag, Ph.D., Michigan, 1948, Alumni Professor Emeritus—ethnology, archaeology, West Indies

Fred B. Kniffen, Ph.D., UC, Berkeley, 1930, Boyd Professor Emeritus—cultural, ethnology, Louisiana, Eastern U.S.

William G. McIntire, Ph.D., Louisiana State, 1954, Professor Emeritus—geomorphology, archaeology, coastal environments

Robert W. Neuman, M.A., Louisiana State, 1956, Adjunct Assistant Professor and Curator of Anthropology—archaeology, prehistoric ecology, Southeastern United States

Charles E. Pearson, Ph.D., Georgia, 1979, Adjunct Assistant Professor—archaeology, southeast

Robert C. West, Ph.D., UC, Berkeley, 1946, Boyd Professor Emeritus—cultural, historical, ethnology, Latin America

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Choi, Young-Joon. "The Yongnam-Ro: An Historical Geography of a Korean Royal Road," 1982.* Mf., University Microfilms.

Hughes, Robert H. "Use of Landsat Multispectral Scanner Ditigal Data for Mapping Suspended Solids and Salinity in the Atchafalaya Bay and Adjacent Waters, Louisiana," 1982.* Mf., University Microfilms.

Master's:

Bellande, David T. "Religious Diversity in a South Louisiana Community," 1982.*

Johnson, Thirl D. "A Wave Climate Model for the Chenier Plain of Louisiana," 1982.*

Lane, Sheri Dixon. "The Impact of Missionary Activity among the Kuna Indians of the San Blas Islands, Panama," 1983.*

Roberts, Lisa Sue. "Historical Land Use in Burkes' Garden, Tazewell County, Virginia: 1880-1981."*

Mankato State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1953 GRADUATE PROGRAM FOUNDED: 1953

DEGREES OFFERED: M.S., M.A.

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 1
NOT IN RESIDENCE: 7

CHAIRMAN: Philip S. Kelley

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Department of Geography, Box 2, Mankato State University, Mankato, Minnesota 56001
Telephone (507) 389-2617

PROGRAMS AND RESEARCH FACILITIES: The department stresses broad preparation for advanced graduate work, preparation for teaching at various levels, and careers in applied geography. Major strengths are in urban and regional planning and in techniques. The M.A. requires a language or statistical skill, plus a thesis or internship; the M.S. also permits an alternate paper. The department maintains a small book and map library, a well-equipped cartography laboratory (including an Apple II microcomputer, Numonics digitizer, a process camera and complete darkroom facilities) and a wide variety of field and laboratory equipment. A UNIVAC 1100/80 Computer is readily available for graduate student and faculty use; graphics support includes a Tektronix terminal, a Complot DP-1 drum plotter, and a growing library of applications software. The University library has most of the major U.S. geographic journals and is a depository of the U.S. Government and the United Nations. The University library has a substantial map collection and is an AMS and USGS depository.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Students must fulfill the requirements for admission to the Graduate College and be admitted by the department for the degree program desired. Students may enroll at the start of any quarter or summer session. The department has a limited number of graduate assistantships.

FACULTY:

Lawrence C. Anderson, Ed.D., Idaho, 1968, Professor—geographic education, agriculture, polar lands

Darrell F. Apitz, M.S., Mankato State, 1963, Assistant Professor—physical, regional

Branko Colakovic, Ph.D., Minnesota, 1970, Associate Professor—Eastern Europe, cultural, urban

Mary T. Dooley, Ph.D., Michigan State, 1975, Professor—historical, Anglo-America

James F. Goff, Ph.D., Illinois, 1970, Professor—political, Soviet Union, military

Philip S. Kelley, Ph.D., Washington, 1977, Associate Professor and Chairman—cartography, image interpretation, environmental quality, computer techniques

Miriam Kui Kiaw Lo, Ph.D., Western Ontario, 1973, Associate Professor—cultural, economic development

Donald Roscoe, M.S., Mankato State, 1966, M.S., Houston, 1968, Assistant Professor—earth science education, physical

George Stoops, M.S., AIP, Illinois, 1968, Associate Professor—urban and regional planning

David L. Thurston, M.S., Chicago, 1964, Associate Professor—manufacturing, recreation, quantitative techniques

Perry S. Wood, Ph.D., Nebraska, 1973, Professor—urban, field methods

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Raley, Mary T. "An Estimate of the Passive Solar Design Potential within Modern Residential Land Use: Climate, Lot, and House Design Configuration of Single-Family Areas Built after 1965 in Mankato, Minnesota," 1982.

Westergren, Carl. "Optimization of Information and Design: An Empirical Evaluation of Selected Relief Maps," 1982.

University of Maryland

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1941 GRADUATE PROGRAM FOUNDED: 1941

DEGREES OFFERED: M.A., Ph.D. in Geography; M.A. in Urban Studies; M.C.P. (UMAB)

GRANTED 7/1/82-6/30/83: 5 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 31 M.A. 13 Ph.D.
NOT IN RESIDENCE: 1 M.A. 1 Ph.D.

CHAIRMAN: Kenneth E. Corey

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director of Graduate Records, Room 2125, South Administration Building; for further geogra-

phy information write to: Admissions and Graduate Program Advisor, Department of Geography, 1113 Lefrak Hall, University of Maryland, College Park, Maryland 20742
Telephone (301) 454-2241

PROGRAMS AND RESEARCH FACILITIES: The graduate programs, especially the Ph.D. program, provide individual specialization. Graduate studies are encouraged in applied locational/spatial research and planning/policy research, as well as in basic research. Recently there has been significant new faculty recruitment in support of the department's increasing emphases on professional geographic careers and practical geographic methods. These new directions recognize the growing need for the utilization of geographic knowledge in understanding and prospering in a post-industrial era. Specific departmental graduate specialties include the following:

ENVIRONMENTAL ANALYSIS AND PHYSICAL GEOGRAPHY: environmental policy issues, including active faculty interests in water resources planning, energy policy analysis, consumer energy patterns, process geomorphology, morphometric analysis, coastal environments, microclimatology, synoptic climatology, and resource use. Recently, the Chesapeake Bay and Maryland's natural environments have been a principal focus of graduate student and faculty research.

CARTOGRAPHY AND SPATIAL ANALYSIS APPLICATIONS: cartographic design and application are stressed; studies leading to professional careers in cartography and related specialties. These include cartographic communication, transformations and projections, computer-assisted cartography, geographic information systems, maps for the blind, and remote sensing.

METROPOLITAN ANALYSIS AND PLANNING: understanding the post-industrial transactional metropolis; internal metropolitan structure and interrelationships; planning, management, and development processes, both organizational and regional; some comparative and international urbanization and settlement processes; urban historical; and selected urban functions—transportation, population, economic, and policy systems. These studies are supported by the department's Institute for Urban Studies, and the extensive metropolitan and planning faculties of the University of Maryland campuses.

HUMAN GEOGRAPHY: international development and developing countries; colonization processes; tropical areas; health and disease; cultural processes; broad interdisciplinary approach is encouraged.

REGIONAL: specialization is possible in several areas (see staff listings).

The department has an outstanding location for the pursuit of geographical studies; our graduate students are encouraged to exploit this potential. The University of Maryland is eight miles (20 min.) from the incomparable library and research facilities of Washington, D.C. Its location in the Baltimore-Washington urban region provides students with the opportunity to examine first-hand the southern portion of Megalopolis, while the proximity of the Appalachians, the Piedmont and the Coastal Plain with the Chesapeake Bay offers additional research challenges. The department's new quarters include separate teaching and research labs for physical geography and cartography, and a self-instruction laboratory.

The department jointly operates, with the Division of Behavioral and Social Sciences, a well-equipped Computer Mapping and Spatial Analysis Laboratory. This facility contains two Tektronix 4014 graphics terminals, a Tektronix BASIC language programmable graphics microcomputer, a small graphic tablet, two digitizing tablets, a pen-plotter, and paper copy devices. The terminals connect to a PRIME 550 minicomputer, which is utilized primarily for graphics applications and instructional simulations. A comprehensive range of readily accessible and working software for mapping and spatial analysis supports instructional, service, and research needs. The software library includes GIMMS, USGS-CAM, SYMAP, GEOSYS, FLOW, SURFACE II, and locally developed software for digitizing, shoreline measurement, and districting mapping. Map production services are available through a fully equipped cartographic production facility, including four photographic darkrooms.

As part of the department's emphasis on proposal development and externally funded projects, a resource center on grantsmanship and fund raising is maintained. It is available to graduate students and faculty in geography, urban studies, and planning.

The department is developing its capacity in geographical remote sensing by (1) initiating a cooperative agreement with NASA's Goddard Space Flight Center and (2) working with the Remote Sensing Systems Laboratory on the College Park campus. Departmental graduate students and faculty use these resources on a project-by-project basis.

The Department publishes an *Occasional Paper Series;* the series has included *The Atlas of Maryland* and the 1983 addition to the series is Jean Gottmann's *The Coming of the Transactional City*. Dr. Robert D. Mitchell is Editor for the Americas, *Journal of Historical Geography*.

The University's Institute for Urban Studies is a program of the Department of Geography. The Institute offers a program leading to the Master of Arts degree in Urban Studies; for admission and financial aid materials write Urban Studies, Director of Graduate Studies, c/o 1113 Lefrak Hall, University of Maryland, College Park, Maryland 20742; telephone (301) 454-5195, 5718. The program is interdisciplinary and professionally oriented to educate students in metropolitan-area careers through the use of generic planning and management methods. A graduate of the program is prepared to enter practice in metropolitan organizations from the non-profit, voluntary, profit, and governmental sectors relating to urban affairs. The Institute's faculty specialize in metropolitan and regional planning, public policy analysis and management, quantitative planning methods, and economic-development planning. Internships are encouraged; career-oriented management and planning competencies are stressed. The Institute has a joint program with the professional American Planning Association-recognized Master of Community Planning Program, University of Maryland, Baltimore City Campus (UMAB); for more information, contact Dr. Melvin Levin, c/o 525 West Redwood Street, UMAB, Baltimore, Maryland 21201; (301) 528-3600.

The Institute also publishes a periodic Urban Studies Monograph Series; the first volume published in 1983 was *Ending Unemployment: Alternatives for Public Policy* by Melvin R. Levin. The Institute sponsors the annual Samuel J. Lefrak lecture series in urban studies, in which distinguished urbanists visit the campus for one to two weeks each spring.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester. Admission (M.A. and Ph.D.): B (3.0) average, strong Graduate Record Examination scores (verbal and mathematical), and three letters of recommendation. It is *essential* that Ph.D. student applicants provide a complete and focused statement of study objectives and specialization together with specific research plans; this statement is important; it is used to assign two initial faculty sponsors to prospective doctoral students. Effective January 1984, Graduate Assistantships provide a 10-month stipend of $6000 for new graduate students and additional stipend steps for advanced Master's and Ph.D. students to $6250 plus remission of tuition and are renewable. Various competitive university fellowships and grant-supported assistantships sometimes are available.

GEOGRAPHY STAFF:

Harold Brodsky, Ph.D., Washington, 1966, Associate Professor—economic, quantitative, traffic safety

Antonio F. Chaves, Ph.D., Havana, 1946, Associate Professor—hispanic world, political, historical

Charles M. Christian, Ph.D., Illinois, 1975, Associate Professor (joint appointment with Urban Studies)—urban social policy, minorities in public service, demography

Joseph Cirrincione, Ph.D., Ohio State, 1970, Associate Professor (joint appointment with Secondary Education) and Director of Undergraduate Studies—geography in education

Kenneth E. Corey, AICP, Ph.D., Cincinnati, 1969, Professor and Chairman (joint appointment in planning) and Director, Institute for Urban Studies—planned organizational change, metropolitan planning, neighborhood grantsmanship

L. Schuyler Fonaroff, Ph.D., Johns Hopkins, 1961, Professor—cultural, medical, biogeography

Susan Gibbons, B.A., Salisbury State, 1979, Director of the Cartographic Services Laboratory

Samuel N. Goward, Ph.D., Indiana State, 1979, Assistant Research Scholar—remote sensing, numerical analysis, modeling, climatology

Paul A. Groves, Ph.D., UC, Berkeley, 1969, Associate Professor and Graduate Program Advisor—urban, historical metropolitan structure, ethnic groups in cities

Robert A. Harper, Ph.D., Chicago, 1950, Professor—urban systems in modern societies, geography in education, U.S., Soviet Union

Michael S. Kearney, Ph.D., Western Ontario, 1981, Assistant Professor—Quaternary and glacial geomorphology, palynology, soils, remote sensing

Poh-Chin Lai, Ph.D., Waterloo, 1983, Assistant Professor—computer-assisted cartography, cartographic communication, quantitative analysis, transportation geography

Stephen P. Leatherman, Ph.D., Virginia, 1976, Associate Professor—coastal geomorphology, remote sensing, coastal resource management, quantitative geomorphology

Robert D. Mitchell, Ph.D., Wisconsin, 1969, Associate Professor—historical, cultural, European overseas colonization

Donald Petzold, Ph.D., McGill, 1980, Assistant Professor—climatology, microclimatology, high latitude climatology

Stephen W. Sawyer, Ph.D., Clark, 1980, Assistant Professor—energy, environmental policy, pollution, water resources planning

Rita Schneider, Ph.D., Ohio State, 1982, Assistant Professor—international development, social/population, economic

Derek Thompson, Ph.D., Indiana, 1966, Associate Professor—transportation, locational analysis of urban and regional systems, population migration, geographic information systems

Joseph W. Wiedel, M.A., Maryland, 1963, Associate Professor—cartography, maps for the blind

AFFILIATE AND ADJUNCT GEOGRAPHY STAFF:

Frederick R. Broome, M.A., Georgia, 1966, Lecturer—computer-assisted cartography

Thomas M. Corsi, Ph.D., Wisconsin-Milwaukee, 1976, Associate Professor of Transportation, College of Business Administration and Management—transportation (affiliate)

Walter W. Deshler, Ph.D., Maryland, 1957, Visiting Professor—remote sensing, Africa

Henry Frieswyk, A.B., Clark, 1942, Lecturer—cartography, cartographic management

Judith A. Monte, Ph.D., Louisiana State, 1978, Lecturer—coastal geomorphology, remote sensing

Joel L. Morrison, Ph.D., Wisconsin, 1968, Adjunct Professor—cartography, mapping

Dixie Ann Pemberton, Ph.D., Kansas, 1970, Research Associate Professor, Center for Environmental and Estuarine Studies—environment, education (affiliate)

URBAN STUDIES STAFF:

Charles M. Christian, see geography staff

Marie Howland, Ph.D., Massachusetts Institute of Technology, 1981, Assistant Professor—employment, urban and regional economic planning, capital markets

Hyun-Sik Kim, Ph.D., Princeton, 1981, Assistant Professor—housing market analysis and finance, quantitative analysis and computer application in urban affairs, environmental planning, developing countries, East Asia

Vincent L. Marando, Ph.D., Michigan State, 1967, Professor—urban public policy, public management, and intergovernmental relations

Barbara W. Williams, M.P.A., American, 1976, Lecturer, Assistant to the Director and Director of Graduate Studies—management, personnel administration, internships

AFFILIATE AND ADJUNCT URBAN STUDIES STAFF:

Howell R. Baum, Ph.D., UC, Berkeley, 1974, Associate Professor—social planning, planning theory (affiliate)

Sidney N. Brower, AICP, M.C.P., Massachusetts Institute of Technology, 1964, Associate Professor—physical environment and human behavior, infrastructure and facilities planning, planning practice, neighborhood planning (affiliate)

Patricia S. Florestano, Ph.D., Maryland, 1974, Director, Institute for Governmental Services—urban affairs and public administration, coastal zone management (affiliate)

David P. Fogle, AICP, M.R.C.P., UC, Berkeley, 1957, Associate Professor—historic preservation planning, urban form, urban planning, planning studio (affiliate)

Robert W. Janes, Ph.D., Illinois-Urbana, 1942, Professor—urban sociology, research methods, community indicators

Melvin B. Levin, AICP, Ph.D., Chicago, 1956, Professor and Director, UMAB Community Planning Program—public policy, planning administration, state and regional planning, research, planning practice, manpower planning (affiliate)

John C. Murphy, L.L.B., New York University, 1965, Lecturer—urban and planning law

Clarence M. Stone, Ph.D., Duke, 1963, Professor—urban politics, American government

TITLES OF GEOGRAPHY THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Clegg, Robert H. "Martian Channel Source and Origin: A Morphometric Examination of the Fluvial Hypothesis," 1982.

Torrieri, Nancy K. "Cultural Change and Residential Dispersal: The Survival of Italian-American Culture in Baltimore," 1982.

Master's:

Brennand, Mark. "Employment Stability and Community Institutions in a Company Town: Brunswick, Maryland, 1880-1920," 1983.

Fuchs, Christopher. "Developers and Users of Office Space: An Examination of the Location Decision Processes in the Washington, D.C. Area, 1981-1983," 1983.

Gietkowski, Joyce L. "Synoptic Investigations of the Summer Climate of the Eastern United States," 1982.

Krauss, Douglas Andrews. "A Psychophysical Study of Cross-Screened Tones and Their Perceived Gray Values," 1983.

Raab, Victoria Jane. "Maps for the Visually Handicapped: An Investigation of Users' Problems and Suggestions for Map Program Development," 1983.

University of Massachusetts (Amherst)

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

DATE FOUNDED: 1967 GRADUATE PROGRAM FOUNDED: 1980

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 1

CHAIRPERSON: George E. McGill

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Rutherford H. Platt, Department of Geology and Geography, University of Massachusetts, Amherst, Massachusetts 01003
Telephone (413) 545-2286

PROGRAM AND RESEARCH FACILITIES: The department has a strong program in graduate training and research leading to the M.S. degree in geography. The geography program has special strengths in Geomorphology, Climatology and Paleoclimatology, Quaternary Studies, Land and Water Resource Management, Urban Geography, Rural Economic Development, Migration, and Environmental Perception. Special problems in these areas may be explored in the regional context of North America, New England, Western Europe, Latin America, East and Southeast Asia, and the Arctic.

The department has excellent facilities in Quaternary studies and physical geography, including an amino acid geochronology lab and a climatology lab with meteorological equipment and substantial long-term climatic data holdings. The department also houses the Land and Water Policy Center. Close cooperation is maintained with allied programs in regional planning, geology, anthropology, Five College Latin American and Asian Studies Programs, the Water Resources Research Center, the Center for Massachusetts Data, and the Remote Sensing Center and Digital Analysis Laboratory. The department houses facilities for cartographic design and photographic cartography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. A minimum cumulative average of 2.75 (4 point system) or equivalent is required. Deadlines for applications are March 1 for the fall semester and October 1 for the spring semester. Thesis or non-thesis tracks are available. Teaching assistantships are awarded on a competitive basis subject to availability and carry a waiver of tuition fees. Full- and half-time research assistantships are also available.

STAFF:

David Alexander, Ph.D., London, 1977, Assistant Professor—fluvial geomorphology, environmental hazards, quantitative methods

Raymond S. Bradley, Ph.D., Colorado, 1974, Associate Professor—paleoclimatology, climatology, Arctic regions, western United States

James A. Hafner, Ph.D., Michigan, 1970, Associate Professor—agricultural systems, developing areas, population, Southeast Asia

E. Bruce MacDougall, Ph.D., Toronto, 1967, Associate Professor—regional planning, land resource inventory, remote sensing

William D. McCoy, Ph.D., Colorado, 1981, Assistant Professor—geomorphology, Quaternary stratigraphy, amino-acid geochronology

Rutherford H. Platt, J. D., Chicago, 1967; Ph.D., Chicago, 1971, Associate Professor—land and water resource management, planning law

Rebecca Smith, Ph.D., Minnesota, 1982, Assistant Professor—urban geography, social geography, quantitative methods

Richard W. Wilkie, Ph.D., Washington, 1967, Professor—migration, cartography, environmental perception, Latin America

ASSOCIATED QUATERNARY STUDIES FACULTY:

Laurie Brown, Ph.D., Oregon State, 1974, Associate Professor—paleomagnetism, geophysics

Joseph H. Hartshorn, Ph.D., Harvard, 1955, Professor—glacial geomorphology, Arctic and New England

Richard F. Yuretich, Ph.D., Princeton, 1976, Assistant Professor—environmental geochemistry, East African lake environments

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Nechamen, William S. "An Examination of Small-Scale Hydroelectric Development in the Connecticut River Basin in Massachusetts," 1983.*

Memphis State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1926   GRADUATE PROGRAM FOUNDED: 1952

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 4

CHAIRMAN: W. Theodore Mealor, Jr.

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Advisor, Department of Geography, Memphis State University, Memphis, Tennessee 38152
Telephone (901) 454-2386

PROGRAMS AND RESEARCH FACILITIES: The goal of the geography master's program is to provide students with a sound education in the fundamentals and applications of geographic research as preparation for work or for further education. The program assures breadth within the discipline yet is flexible enough to allow the student to place emphasis upon one of the following: (1) environment and earth sciences (atmosphere, landforms, and water resources); (2) human-economic spatial systems (land use, industrial location, urban-rural systems); and (3) geographic techniques (cartography, map production, computer mapping, and remote sensing). A minimum of 30 hours (thesis) or 33 hours (non-thesis), designed by the student in consultation with an advisor, is required. Corollary areas of study in other departments are available to support the major interests.

The location of the University in a large urban area, yet in the heart of one of the nation's leading agricultural regions, and within a half-day's drive of five physiographic provinces, provides an ideal workshop for a variety of environmental and cultural topics. Departmental facilities insure ample space for student offices and research activities. The Department maintains a weather station, a graphics terminal, digitizer and plotter, micro-computers (for graphics and basic image processing), a copy camera, and a variety of other cartographic and remote sensing equipment that support not only academic and research endeavors but also the activities of the Cartographic Services Laboratory.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University is on the semester system. Acceptance by the University Graduate School is prerequisite to admission by the Department. The Graduate School requires applicants to submit transcripts of all college grades and to present satisfactory scores on either the Graduate Record Examination or the Miller Analogies Test. Three letters of recommendation are required by the Department for all students seeking financial aid.

Financial aid in the form of teaching and research assistantships are available. Teaching assistants normally conduct introductory physical geography laboratories or assist in the human-economic and cartography courses. Stipends vary, but provide a minimum of $3,000 for eight months and include waiver of all tuition fees. Internships are occasionally available as are funds from contracts and grants.

STAFF:

Melvin C. Barber, Ph.D., Southern Illinois, 1971, Associate Professor and Director, Urban Studies—marketing, transportation, urban analysis, industrial location, U.S. South

Michael L. Barnhardt, Ph.D., Illinois, 1979, Assistant Professor—soils, conservation, geomorphology, aerial photo interpretation

John H. Corbet, Ph.D., Florida, 1966, Associate Professor—geomorphology, hazards, U.S.S.R.

Howard E. Frye, M.A., Michigan, 1954, Assistant Professor—Europe, Anglo-America

Hsiang-te Kung, Ph.D., Tennessee, 1980, Assistant Professor—water resources, geomorphology, urban environment, Asia

John T. Matson, Ph.D., Ohio State, 1979, Assistant Professor—behavioral, urban, computer applications, quantitative

W. Theodore Mealor, Jr., Ph.D., Georgia, 1972, Professor and Chairman—economic, land use, agriculture, aerial photo interpretation, remote sensing

John A. Sobol, Ph.D., Michigan, 1961, Professor—atmosphere, cartography, Latin America

Charles T. Traylor, Ph.D., Kansas, 1979, Associate Professor and Director, Cartographic Services Laboratory—cartography, remote sensing, computer mapping

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Hammons, Linda S. "The Effectiveness of Various Forms of Flood Hazard Information on the Perception of Flood Plain Residents," 1983.*

Miami University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1906 GRADUATE PROGRAM FOUNDED: 1929

DEGREES OFFERED: M.A., M.A. in Teaching

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 3

CHAIR: John L. Thompson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: John C. Klink, Department of Geography, 211 Shideler Hall, Miami University, Oxford, Ohio 45056
Telephone (513) 529-4728

PROGRAMS AND RESEARCH FACILITIES: The M.A. program is a broadly conceived professional curriculum for students intending to pursue work in geography beyond the master's degree or to enter directly into local and federal government or industrial employment. The department operates in the belief that the M.A. degree should further broaden the student's geographical background, but the program is sufficiently flexible to allow for strengthening his systematic or regional interest. Areas of emphasis include Urban Analysis and Physical-Environmental Analysis. The M.A. with a thesis or practicum requires a minimum of 36 hours including 30 hours of course work. An all course work option is available and requires completion of 45 credit hours. The University provides corollary strengths in the social sciences and languages for students with urban, political, European, and Latin American interests.

The M.A.T. program requiring 36 hours of course work is designed for students certified to teach and intending to pursue a school teaching career.

The department occupies new facilities which include a cartographic-air photo laboratory with capabilities for inking, scribing, and computer-assisted drawing of maps; a data processing center equipped with a digitizer, printer, graphics computer terminal, and a digital image analysis system; soil lab equipment; and a microclimatology/precipitation chemistry station at the Ecology Research Center. Other valuable University resources include the Audio-Visual Service, a map library, two IBM 370-148 computers, two HP 3000 computers, Calcomp plotter, and the Scripps Foundation and Gerontology Center.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Semester System. *Admission Requirements:* Bachelor's degree from an accredited college or university; cumulative minimum grade point average of 2.5 (of a possible 4.0); departmental approval. *Financial Aid:* Graduate Assistantships: Stipends range from $3,850 to $4,150 for the nine-month academic year plus remission of out-of-state tuition and instruction fee. Each assistant is eligible for two $500 Graduate Summer Fellowships, each with a stipend of $500 plus remission of out-of-state tuition and instruction fee. *Grants-in-aid:* Tuition.

STAFF:

Robert S. Bacon, Ph.D. (Psychology), Nebraska, 1955, Ph.D. (Geography), Colorado, 1975, Associate Professor—population, behavioral-cultural, urban

Martin E. Dulgarian, Ph.D., Michigan, 1965, Associate Professor—Asia, history and philosophy of geography, political

Jerry E. Green, Ph.D., North Carolina, 1976, Assistant Professor--physical natural resources, land use planning, remote sensing

John C. Klink, Ph.D., Minnesota, 1974, Associate Professor—climatology, soils

Howell C. Lloyd, Ph.D., Northwestern, 1964, Professor—political, Europe, settlement

Byron E. Logan, Ph.D., North Carolina, 1956, Associate Professor—Africa, economic, Brazil

James M. Rubenstein, Ph.D., Johns Hopkins, 1975, Associate Professor—planning, urban policy analysis, new towns

Lee H. Slorp, Ph.D., Illinois, 1977, Assistant Professor—plant geography, land forms, cartography, remote sensing

Richard V. Smith, Ph.D., Northwestern, 1957, Professor—urban, population, recreation

John L. Thompson, Ph.D., Wisconsin, 1955, Professor and Chair—conservation, Soviet Union, energy resources

Joseph T. Urell, Ph.D., Cincinnati, 1976, Assistant Professor—urban-residential mobility, twentieth-century geographic thought

Cyrus W. Young, Ph.D., Michigan State, 1970, Associate Professor—marketing, transportation, urban

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Connelly, John P. Practicum Report: "An Internship with the Center for Urban Affairs, Miami University," 1982.*

Withers, Jill C. Practicum Report: "An Internship with the Rock County Planning, Economic, and Community Development Department and the Strafford Rockingham Regional Council," 1982.*

University of Miami

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1971

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 7
NOT IN RESIDENCE: 4

CHAIRPERSON: Peter O. Muller

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Thomas D. Boswell, Graduate Advisor, Department of Geography, P.O. Box 248152, University of Miami, Coral Gables, Florida 33124
Telephone (305) 284-4087

PROGRAMS AND RESEARCH FACILITIES: The University of Miami is located in a growing, uniquely cosmopolitan urban area on the margins of the Caribbean. Appropriately, the Department of Geography has particular strength in the fields of urban geography and tropical area studies. Programs leading to the Master's Degree tend to focus systematically upon urban problems and regionally upon tropical studies, though not to the exclusion of other combinations; there is much flexibility and arrangements are made to serve individual needs. The possibilities involved are reflected by the faculty's areas of specialization, given below.

The Department's facilities incorporate a large map library and a cartographic laboratory whose equipment includes a darkroom and complete color production facilities. The University Library houses a substantial collection of geographic literature; modern computer facilities (Univac and IBM) exist on campus, and an expanding terminal installation is housed in the Department. The University maintains nearby field stations, available for use by the Department, on Biscayne Bay and in the Florida Keys and the Everglades.

The publications of the Miami Geographical Society are produced in the Department, the latest title being *Geography of Viticulture* by H. J. deBlij.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Miami operates on the semester system. The Department offers two tracks leading to the M.A. in Geography. The *thesis track* requires 30 credits at the graduate level, of which at least 18 are in Geography and 6 in thesis work; a final requirement involves the oral defense of the thesis. The *non-thesis track* requires 36 credits at the graduate level, of which at least 24 are in Geography; in addition, candidates must successfully complete two written examinations (one covering the discipline in general, and the second focusing on an approved area of specialization). Applicants should have a B average in their undergraduate work and should have a combined four-figure score in the Graduate Record Examination. Financial aid includes Departmental assistantships ($4800).

STAFF:

Thomas D. Boswell, Ph.D., Columbia, 1973, Associate Professor—population and migration, the Caribbean and Middle America, urban social problems

Donald L. Capone, Ph.D., Michigan State, 1971, Associate Professor—cartography, conservation and resource management, East Africa, crime

James R. Curtis, Ph.D., UCLA, 1978, Assistant Professor—urban cultural landscapes, folk and popular culture, U.S. historical geography, ethnic groups

Harm J. deBlij, Ph.D., Northwestern, 1959, Professor—political, regional studies, viticulture, Southern Africa

David M. Helgren, Ph.D., Chicago, 1975, Assistant Professor—geomorphology, Quaternary studies, archeology, Southern Africa

Peter O. Muller, Ph.D., Rutgers, 1971, Professor and Chairperson—intrametropolitan spatial structure, U.S. economic geography, energy and settlement patterns

Ira M. Sheskin, Ph.D., Ohio State, 1977, Associate Professor—urban transportation, quantitative, survey research, energy systems

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Dearborn, Bonnie B. "Municipal Boundaries in Biscayne Bay: Evolution and Conflict Potential," 1983.

Rallis, Donald N. "Manufacturing a Majority: Malapportionment in South African Political Districting," 1983.

Michigan State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1955 GRADUATE PROGRAM FOUNDED: 1952

DEGREES OFFERED: M.A., M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 6 Masters, 4 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 20 Masters 15 Ph.D.

CHAIRMAN: Gary A. Manson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Gary Manson, Chairman, Department of Geography, M.S.U., East Lansing, Michigan 48824
Telephone (517) 355-4649

PROGRAMS AND RESEARCH FACILITIES: Graduate programs are designed to give various levels of professional competence in the tools, substance, methodology and theory of geography. Systematic fields of emphasis are physical, cartography, and regional/urban development with other programs possible. Faculty research and travel give regional strength in Africa, Latin America, Europe, East Asia and the United States.

Strong supporting fields include the social sciences, history, soils, geology, food sciences, community medicine, resource development, marketing, urban planning, recreation, and transportation. Geographic study and research are facilitated by the African, Asian, and Latin American Studies Centers, and the University Computer Center.

The MSU library contains well over 2 million volumes and a map library. The Department facilities include a well-equipped Center for Cartographic Research and Spatial Analysis, a graphics laboratory with multiple microcomputers, and easy access to the University CDC 6500 computer and the Office of the State climatologist. University housing includes numerous on-campus apartments and a graduate dormitory.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan*—quarter system. *Admission requirements for M.A.*—completion of an undergraduate degree with a 3.4 average for the last two academic years; encourage any qualified student to apply. *Ph.D.*—completion of master's degree or equivalent, satisfactory grade-point average.

Teaching assistantships, university scholarships, research assistantships in cartography, M.S.U. Graduate Office scholarships, and other awards are available. Half-time stipends starting at $5,643 are available depending on the degree held (1982-83 rates). Deadline for applications is February 15 for financial aid the following autumn.

STAFF:

David Campbell, Ph.D., Clark University, 1977, Assistant Professor—Africa, social/economic change in developing world

Michael Chubb, Ph.D., Michigan State, 1967, Professor—recreation geography, resource geography, environmental quality, research methods

Joe T. Darden, Ph.D., Pittsburgh, 1972, Professor—urban-social, cultural, U.S.

Richard Groop, Ph.D., Kansas, 1976, Associate Professor—cartography, population

Jay R. Harman, Ph.D., Illinois, 1968, Professor—physical (plant geography, synoptic climatology)

John M. Hunter, Ph.D., Reading, 1954, Professor—medical, Africa

Daniel Jacobson, Ph.D., Louisiana State, 1954, Professor—cultural-historical, education

J. Michael Lipsey, M.A., Michigan State, 1981, Specialist—cartography

David Lusch, Ph.D., Michigan State, 1982, Specialist—remote sensing

Gary A. Manson, Ph.D., Washington, 1970, Associate Professor—geographic education

Ian M. Matley, Ph.D., Michigan, 1961, Professor—cultural, U.S.S.R., East Europe

Assefa Mehretu, Ph.D., Johns Hopkins, 1969, Visiting Associate Professor—economic development, location theory, Africa

Judy M. Olson, Ph.D., Wisconsin, 1970, Professor—cartography

Bruce W. Pigozzi, Ph.D., Indiana, 1979, Assistant Professor—economic, transportation, quantitative

Lawrence M. Sommers, Ph.D., Northwestern, 1950, Professor—methodology, Western Europe

Robert N. Thomas, Ph.D., Pennsylvania State, 1968, Professor—population, migration systems, Latin America

Jack Williams, Ph.D., Hawaii, 1973, Associate Professor—agricultural, East Asia, Southeast Asia, cartography

Harold A. Winters, Ph.D., Northwestern, 1960, Professor—physical (geomorphology), Michigan

Robert I. Wittick, Ph.D., Iowa, 1972, Associate Professor—transportation, information systems, quantitative, computer techniques

ADJUNCT FACULTY:

Fred V. Nurnberger, Ph.D., Michigan State, 1972, Adjunct Associate Professor and State Climatologist—climatology

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Hill-Rowley, Richard. "An Evaluation of Digital Landsat Classification Procedures for Land-Use Inventory in Michigan," 1982.

Ijere, Joseph. "Local Organizations as Mechanisms for Rural Development in Borno State, Nigeria: Analysis of Spatial Processes and Patterns," 1983.

Lusch, David. "The Origin and Morphogenetic Significance of Patterned Ground in the Saginaw Lowland of Michigan," 1982.

Rii, Hae Un. "Genesis, Early Growth, and Impact of the Transportation System on Detroit, 1805-1900," 1982.

Master's:

DeKleine, Renate. "The Problem of Breastfeeding and Weaning in the Developing World," 1982.

Hood, David. "The Spatial Distribution of Regional Shopping Centers Based upon Sales Growth Rates: A Chicago Case Study Focused upon Expressway Location," 1983.

Johnson, Deborah. "U.S. Lake Survey Nautical Charts: A Cartographic and Historical Analysis," 1982.

Killpatrick, Elizabeth. "An Evaluation of Settlement Schemes Using the Examples of Mwea and Gezira," 1982.

Rhoads, Bruce. "Interralationships between Glacially Buried Organic Matter, the Bedrock Surface, and the Present Topography in South-Central Michigan: A Case for Multiple Paleosurfaces," 1982.

Seepersad, Mary Bliss. "Urban Population Density Gradients in Port of Spain, Trinidad," 1982.

University of Minnesota

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1925   GRADUATE PROGRAM FOUNDED: 1930s

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 6 M.A., 6 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 33 M.A. 25 Ph.D.
NOT IN RESIDENCE: 2 M.A. 6 Ph.D.

CHAIRMAN: John S. Adams

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor John S. Adams, Chairman, Department of Geography, University of Minnesota, 414 Social Science Building, Minneapolis, Minnesota 55455
Telephone (612) 373-2661

PROGRAMS AND RESEARCH FACILITIES: The graduate program in geography at the University of Minnesota emphasizes flexibility and freedom of choice. Students are encouraged to pursue their own interests and to realize their full personal potential. They design their own programs, in consultation with members of the faculty, and no two students have identical programs.

The most important and distinctive feature of the program is the close working relationship between students and faculty members, and especially between individual students and their advisors. The list of faculty members and of their interests suggests the diverse subject areas in which students may do research.

Location in a major metropolitan area encourages and facilitates study of urban and metropolitan problems. The department has a close working relationship with the Center for Urban and Regional Affairs, the Hubert H. Humphrey Institute of Public Affairs, and various branches of nearby state government, offering graduate students numerous resources and research opportunities.

The department has a strong tradition of historical, cultural, and humanistic geography. Faculty members have a wide range of regional interests, and play major roles in the China Center, the Afro-American and African Studies Department, and the South Asian Studies Department. The department encourages foreign area studies by graduate students; recent students have done research in Asia, Africa, South America, and Europe.

The physical geography program has concentrated in climatology; there is also strong faculty interest in paleogeography, biogeography, soils, and water resources.

The University of Minnesota has all the resources one would expect to find at a major university: fine library and sheet map collections, good computer facilities and services, and strong programs in areas cognate to geography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Minnesota is on the quarter system. Students entering the graduate program normally have a strong undergraduate major in geography with a good grade average, but students with good academic records in other majors and students from other countries are encouraged to apply for admission.

Teaching assistantships and a few research assistantships are available on a competitive basis. Stipends in 1982-83 ranged from $6,147 to $7,695 for nine months, plus remission of nonresident tuition rates. Students with outstanding records may be nominated for Graduate School Fellowships, which paid tuition and a stipend of $4,500 in 1982-83.

HUMAN RIGHTS STATEMENT: The Board of Regents has committed itself and the University of Minnesota to the policy that there shall be no discrimination on the basis of race, creed, color, sex, age, or national origin. In adhering to this policy, the University abides by the requirements of Titles VI and VII of the Civil Rights Act of 1964, Revised Order No. 4, Executive Orders 11246 and 11375, Sections 799A and 845 of the Public Health Service Act, and other federal regulations and pertinent acts of Congress.

It is also the policy of the University of Minnesota not to discriminate on the basis of sex in its educational programs, admissions, activities, or employment policies as required by Title IX of the Education Amendments of 1972.

Inquiries regarding compliance may be directed to Lillian H. Williams, Director, Office of Equal Opportunity and Affirmative Action, 419 Morrill Hall, Minneapolis, Minnesota 55455, (612) 373-7969, or to the Director of the Office of Civil Rights, Department of Health, Education, and Welfare, Washington, D.C. 20201.

STAFF:

John S. Adams, Ph.D., Minnesota, 1966, Professor and Chairman —American cities, regional analysis

Russell B. Adams, Ph.D., Minnesota, 1969, Associate Professor—quantitative-economic, U.S.S.R.

Sona K. Andrews, Ph.D., Arizona State, 1981, Assistant Professor—cartography

Ward J. Barrett, Ph.D., UC, Berkeley, 1959, Professor—Middle America, Oceania, historical

John R. Borchert, Ph.D., Wisconsin, 1949, Regents' Professor—metropolitan and regional land use planning

Dwight A. Brown, Ph.D., Kansas, 1968, Associate Professor—physical, cartography, paleogeography, water resources

Philip J. Gersmehl, Ph.D., Georgia, 1970, Associate Professor—physical, education, North America

John Fraser Hart, Ph.D., Northwestern, 1949, Professor—cultural, North America

Mei-Ling Hsu, Ph.D., Wisconsin, 1966, Professor and Director, China Center—thematic mapping, East Asia, quantitative methods

Fred E. Lukermann, M.A., Minnesota, 1950, Professor and Dean, College of Liberal Arts—historical-geographical thought

E. Cotton Mather, Ph.D., Wisconsin, 1951, Professor—rural settlement of the Americas

Roger P. Miller, Ph.D., UC, Berkeley, 1979, Assistant Professor—urban, historical, geographical methodology and theory

Philip W. Porter, Ph.D., London, 1957, Professor and Director, Office of International Programs—cartography, Africa

John G. Rice, Fil. lic., Uppsala, 1965, Professor—historical, Europe, especially the Scandinavian states and Finland

Joseph E. Schwartzberg, Ph.D., Wisconsin, 1960, Professor—South Asia, Southeast Asia, political

Earl P. Scott, Ph.D., Michigan, 1974, Associate Professor and Chairman, Department of Afro-American and African Studies—cultural, economic, Africa

Eric S. Sheppard, Ph.D., Toronto, 1977, Associate Professor—economic, geographical theory, quantitative spatial analysis

Richard H. Skaggs, Ph.D., Kansas, 1967, Professor—climatology

Roderick H. Squires, Ph.D., Durham, 1970, Associate Professor—biogeography, paleogeography

Connie H. Weil, Ph.D., Columbia, 1980, Assistant Professor—medical, Latin America

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Barnes, Trevor J. "The Geography of Value, Production, and Distribution: Theoretical Economic Geography after Sraffa," 1983.

Datel, Robin E. "Historic Districts in Three American and Two Western European Cities: A Geographical Study," 1983.

Hathaway, James T. "The Evolution of Drinking Places in the Twin Cities: From the Advent of White Settlement to the Present," 1982.

Lee, Hee-yeon. "Spatial Theory of Regional Development in the Third World Countries: A Case Study of Korea," 1983.

Noonan, Dana. "Inter-Generational Differences in the Social Status and Geographical Mobility of Mexican Americans," 1983.

Pyle, Lizbeth A. "Rural Landowners and the Exurbanization Process," 1983.

Smith, Rebecca L. "Neighborhoods Inside and Out: Comparative Perspectives on the Meaning of 'Neighborhood'," 1982.

Master's:

Murdock, Karen J. "*Terrae Partim Cognitae:* Further Places for the Imagination in Geography," 1983.

Sunderlund, Amy T. "Tax Increment Financing: The Case of Loring Park," 1983.

University of Missouri–Columbia

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1950 GRADUATE PROGRAM FOUNDED: 1950

DEGREES OFFERED: M.A.

GRANTED 7/1/82–6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 19
NOT IN RESIDENCE: 0

CHAIRMAN: Walter A. Schroeder

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director of Graduate Studies, Department of Geography, University of Missouri-Columbia, Columbia, Missouri 65211
Telephone (314) 882–8370

PROGRAMS AND RESEARCH FACILITIES: The department offers the M.A. degree on alternative programs, with or without a thesis. Thirty-two hours of course work, with varying amounts of individual reading and research, are required. Close contact between graduate students and staff is emphasized. Programs are tailored to fit the individual needs and interests of students, making liberal use of collateral fields such as atmospheric science, anthropology, economics, history, forestry, and planning. Programs focussed on North America, physical geography and environmental studies, economic and planning-related geography, cartography, and Asia are common. The University library holdings in books, journals, and documentary materials in geography and related fields are very extensive. In addition, the department itself has a large collection of books, journals, bibliographical and other research aids and maps. Computer facilities, including new graphics equipment, are readily available, and their use is encouraged. The department's cartographic program and equipment are supplemented by those of the Geographic Resources Center, an interdisciplinary center for computer graphics and remote sensing. Graduate minors are available in Regional Science and Environmental Science. The department interacts very closely with a vigorous statewide Geography Extension program, through which internships are available. Graduates are prepared for Ph.D. work, for cartographic work, planning, teaching, and other kinds of employment.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Admission: An applicant with an undergraduate G.P.A. of at least 3.0, on a 4.0 system, may be admitted on the basis of this record alone. Lower G.P.A.'s require strong support in the form of letters of recommendation and good scores on the Graduate Record Examination. Applicants must take the Verbal and Quantitative parts of this examination. Eight teaching assistantships of approximately $5000 for nine months and a few grant-related research assistantships are available on a competitive basis.

STAFF:

Robert F. Austin, Ph.D., Michigan, 1977, Assistant Professor —population, cultural, Southeast Asia, cartography, spatial analysis

Wayne L. Decker, Ph.D., Iowa State, 1955, Professor of Atmospheric Science—climatology

Gregory T. Koeln, Ph.D., Virginia Polytechnic Institute and State University, 1980, Assistant Professor—geographic information systems, remote sensing, computer techniques to resource management

J. Trenton Kostbade, Ph.D., Michigan, 1957, Associate Professor—geographic education, political, Anglo-America, Europe

Gail S. Ludwig, D.A., Northern Colorado, 1977, Assistant Professor (Extension)—geographic education, outdoor environmental education, remote sensing

William A. Noble, Ph.D., Louisiana State, 1968, Associate Professor—cultural, architectural, South Asia

Walter A. Schroeder, M.A., Chicago, 1958, Instructor and Chairman—physical geography, Missouri

Jesse H. Wheeler, Jr., Ph.D., Chicago, 1950, Professor—United States, Britain, geographic bibliography, college teaching of world regional geography, historical

University of Montana

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1956 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A. in Geography, M.S. in Rural, Town, and Regional Planning

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 4 M.A. 11 M.S.
NOT IN RESIDENCE: 2 M.A. 13 M.S.

CHAIRMAN: Paul B. Wilson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Department of Geography, University of Montana, Missoula, Montana 59812
Telephone (406) 243-4302

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography at Montana is a small department with a small graduate group and an atmosphere in which the student can receive a good deal of individual attention. The mountain location of Missoula offers many research opportunities as well as amenities. Encouragement is given to involvement in research on local, state, or Rocky Mountain problems.

Programs: The M.A. in geography requires a minimum of 45 graduate credits, a reading knowledge of a foreign language or a substantial competency in quantitative analysis, and a thesis. Areas of emphasis, built upon corresponding undergraduate emphases, are (1) biophysical land inventory, (2) cartography, and (3) watershed analysis. In addition, the student may pursue a thesis in any of the areas of faculty specialization listed below.

The M.A. in Rural Town, and Regional Planning is intended to prepare students for positions in agencies that provide planning services for sparsely populated areas. It involves 70 graduate credits, six months of internship, and a professional paper. The program relies on course offerings and expertise not only in geography but also in law, forestry, geology, sociology, economics, political science, and business administration. The degree has been designated a Western Interstate Commission for Higher Education (WICHE) program. As a result, students from Alaska, Idaho, Oregon, and Washington can enroll in this program at a resident tuition rate.

Research Facilities: Except in cartography, physical facilities and library holdings are modest but generally adequate for the areas of geography and planning in which theses and professional papers will be accepted.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:
Academic Plan: Quarter system. Students may enter any quarter.

Admission Requirements: Applications are examined for evidence of potential for scholarly achievement. A 3.0 GPA (on 4.0 systems) is required for admission on regular status. All applicants must supply Graduate Record Examination scores (verbal and quantitative), and applicants from non-English speaking countries must have taken the Test of English as a Foreign Language. Applications are welcome from prospective students whose prior training was not in geography or planning. Requirements to make up undergraduate deficiencies are kept to a minimum.

Financial Aid: The Department has a limited number of $4300 Graduate Teaching Assistantships which carry remission of most fees. The successful candidates are selected from among those whose applications for admission to the Graduate School are complete on April 1. Opportunities for employment on faculty research or consulting projects are occasionally available.

FACULTY:

John M. Crowley, Ph.D., Minnesota, 1964, Professor—mountain geography, biogeography, Rocky Mountains, Montana

Evan Denney, Ph.D., Washington, 1970, Professor—resources, land use planning, economic, Pacific Northwest

John J. Donahue, Ph.D., Syracuse, 1971, Associate Professor—landforms, air photo interpretation, watershed analysis

Chris Field, Ph.D., UCLA, 1966, Associate Professor—cultural, environmental change, landscape, Hispanic America

Darshan S. Kang, Ph.D., Nebraska-Lincoln, 1975, Associate Professor—water resources, climatology, meteorology, quantitative methods, South Asia

Paul B. Wilson, Ph.D., Nebraska-Lincoln, 1972, Associate Professor—cartography, urban, historical, North America

FACULTY PART-TIME:

Harold W. Bockemuehl, Ph.D., Massey, 1974, Associate Professor—cartography, urban, Australia-New Zealand-Southwest Pacific

FACULTY AFFILIATES:

Barbara Cragg, M.A. (interdisciplinary studies), Montana, 1980, Ph.D. candidate, Oregon—cultural, landscape perception, landscape and literature, American West

G. Thomas Foggin III, Ph.D. (forestry), Montana, 1980, hydrologic consultant—physical geography, watershed management, environmental studies

Kristina Ford, Ph.D. (urban and regional planning), Michigan, 1976, Missoula Planning Department—housing, property taxation

John J. Gilliam, M.A., Montana, 1972, M.S. (planning), Montana, 1983, U.S. Army (retired)—air photo interpretation, cartography

Robert C. Lucas, Ph.D., Minnesota, 1962, U.S. Forest Service—recreation, resource management and conservation, cultural

Philip Maechling, Master of Landscape Architecture, Pennsylvania, 1975, planning consultant—environmental design, landscape architecture

Daniel A. Obermeyer, Bachelor of Architecture, Montana State, 1971, Missoula Planning Department—planning

George H. Stankey, Ph.D., Michigan State, 1970, U.S. Forest Service—land use and recreation planning, social

Jean E. Wilcox, J.D. (law), Montana, 1980, Missoula County Attorney's Office—land use and natural resource law

A. L. Zimmerman, B.A. (mathematics), Montana, 1949, U.S. National Weather Service (retired)—climatology, meteorology, hydrology

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Gilliam, John J. "The Missoula Riverfront Corridor: Plans, Progress, and Recommendations," 1983.*

Wright, John B., Jr. "A Lake on a Mountain Pass: Land-Use Capability of the Georgetown Lake Area, Montana," 1983.*

Murray State University

DEPARTMENT OF GEOSCIENCES

DATE FOUNDED: 1930 GRADUATE PROGRAM FOUNDED: 1969

DEGREES OFFERED: M.A. in Geography, M.A. in Education (emphasis in Geography), M.A.C.T., S.C.T.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 11
NOT IN RESIDENCE: 3

CHAIRMAN: Neil V. Weber

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman,
Department of Geosciences, Murray State University, Murray, Kentucky 42071
Telephone (502) 762-2591

PROGRAMS AND RESEARCH FACILITIES: The Geosciences Department offers the M.A. degree in geography with the thesis (30 hours) or non-thesis (33 hours) option. An oral exam on the thesis material is required of the thesis student and a written comprehensive for the non-thesis student.

The department also participates in three additional graduate programs. They are the M.A. in Education with 18 hours of geography, the Specialist in College Teaching with 30 hours of geography, and the Master of Arts in College Teaching (junior college) requiring also 30 hours in geography. The department has a well-equipped cartography laboratory, remote sensing laboratory, a departmental library/reading room, and a map library. The cartography laboratory houses a Numonics digitizer, Dell-Foster Quantizer, zoom transferscope, Kelsh plotter and a map-o-graph as specialized equipment. A number of geosciences faculty teach and do research in association with the Mid-America Remote Sensing Center (MARC). There, aerial photographic and digital satellite (LANDSAT) data is processed and analyzed using a UNIVAC V77-612 computer and a COMTAL-Dual Image Processor. Other major equipment items include a STATOS 9222 Plotter, Talos SBL660 Digitizer, CROMALIN color processing system, and Kern Stereoplotter.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The university operates on the semester system and has two five-week summer sessions. To be admitted to graduate school, an undergraduate major in Geography is desirable but not necessary for admittance to the program. However, beginning graduate students are expected to have an adequate knowledge of the field. Students should have completed one undergraduate course in cartography. If this undergraduate requirement has not been met, it is possible to take cartography for undergraduate credit while enrolled in the graduate program. The applicant should have an overall undergraduate grade point average of 2.5 (based on 4.0) or above with a grade point average of 3.0 in geography. Students who do not meet these requirements may be admitted to the program with the approval of the geosciences faculty.

STAFF:

Armin L. Clark, Ph.D., Tennessee, 1961, Professor—Cenozoic stratigraphy, petrology, paleontology

Pamela E. Clark, Ph.D., Maryland, 1979, Assistant Professor—geochemistry, remote sensing

Thomas C. Kind, Ph.D., Indiana State, 1976, Associate Professor—physical geography, remote sensing, digital cartography

James P. Matthai, Ed.D., Teachers College, Columbia, 1962, Professor—conservation

John E. Mylroie, Ph.D., Rensselaer Polytechnic Institute, 1977, Associate Professor—karst geomorphology

Burl I. Naugle, Ph.D., Kentucky, 1979, Assistant Professor—hydrology, remote sensing

Neil V. Weber, Ph.D., Indiana State, 1972, Associate Professor—resources management/planning

Peter W. Whaley, Ph.D., Louisiana State, 1968, Professor—depositional environments, coal geology

University of Nebraska - Lincoln

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1907 GRADUATE PROGRAM FOUNDED: 1907

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 4 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 22 M.A. 11 Ph.D.
NOT IN RESIDENCE: 3 M.A. 5 Ph.D.

CHAIRPERSON: Merlin P. Lawson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman of the Graduate Committee, Department of Geography, University of Nebraska, Lincoln, Nebraska 68588
Telephone (402) 472-2865

PROGRAMS AND RESEARCH FACILITIES: There is substantial flexibility in designing programs, but course work and staff interests tend to group into several distinct areas.

M.A. LEVEL: (1) *Climatology and Meteorology*, with a focus on climatic change, dendroclimatology, climatic modelling, severe storms, air pollution, and snow and ice studies. (2) *Historical-cultural geography*, with work tending to focus on the Great Plains. (3) *Spatial analysis and theory*, together with separate emphases on diffusion studies and issues concerned with environment and behavior. (4) *Industrial location* with an applied focus, supplemented by courses in regional economics. (5) *Cartography*, including thematic mapping, computer cartography, and photogrammetry.

Ph.D. LEVEL: (1) *Climatology and Meteorology*. With good facilities and seven staff in this area, several programs of specialization are available. Faculty interests center on dynamic and statistical modelling, severe storms, and climatic change.(2) *Historical-cultural geography*. Continuing a long tradition of work in this area, the work of various faculty tends to focus on early settlement (especially on Great Plains), land use, perception of past environments, and the interaction between the Anglo frontier and native Americans. (3) *Environmental and social issues*, with a focus on the importance of space in social organization, rural and urban problems, and experiences, perceptions, and thoughts about one's environmental setting. (4) *Cartography*, with emphases on thematic map design and computer assisted cartography.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. For admission to the M.A. program, a person should have a bachelor's degree in geography or some other appropriate field. GRE scores are strongly recommended. The M.A. degree requires 24 hours of course work, plus a thesis (or 36 hours without a thesis) and a written examination. For admission to the Ph.D. program, a person should have an M.A. in geography (with thesis) or its equivalent, and GRE scores are required. Some 36 hours of course work is necessary, plus a dissertation, written and oral comprehensives, and one research tool.

Graduate teaching assistantships ($4600–5500) carry with them remission of non-resident tuition fees and free summer tuition, and six hours of free tuition each semester. Duties are 14 hours per week, most commonly involving laboratory teaching. M.A. students are eligible for two years' support, and Ph.D. students up to three years'. University fellowships are available to persons with outstanding qualifications. Also available are research assistantships and part-time teaching positions (freshman-level courses). Inquire early if possible; completed applications are due March 1.

The University of Nebraska is an Affirmative Action Equal Opportunity Institution.

STAFF:

Douglas M. Amedeo, Ph.D., Iowa, 1967, Associate Professor—spatial theory, quantitative analysis, environment and behavior, diffusion

Robert C. Balling, Ph.D., Oklahoma, 1979, Assistant Professor—climatic fluctuation, physical climatology, computer graphics

Kenneth F. Dewey, Ph.D., Toronto, 1973, Associate Professor—applied climatology, meteorology, snow and ice studies, severe storms

Leslie Hewes, Ph.D., U.C., Berkeley, 1940, Professor Emeritus—historical and cultural geography, Great Plains

Jay S. Hobgood, Ph.D., Ohio State, 1983, Assistant Professor—dynamic meteorology, tropical weather systems, computer graphics

Bruce E. Kopplin, A.B.D., Georgia, Visiting Assistant Professor—applied climatology, meteorology

Stephen J. Lavin, Ph.D., Kansas, 1979, Assistant Professor—map design, map perception, computer cartography

Merlin P. Lawson, Ph.D., Clark, 1973, Professor and Chairman—Pleistocene and historic environments, climatic change, dendroclimatology

Richard E. Lonsdale, Ph.D., Syracuse, 1960, Professor—industrial location, small towns, rural development, Soviet Union

C. Barron McIntosh, Ph.D., Nebraska, 1955, Professor Emeritus—applied climatology, Great Plains settlement

Dean S. Rugg, Ph.D., Maryland, 1962, Professor—urban, history and philosophy of geography, Eastern and Western Europe

Robert H. Stoddard, Ph.D., Iowa, 1966, Professor—field techniques, social, South Asia

Michael M. Swann, Ph.D., Syracuse, 1980, Assistant Professor—historical urban geography, historical demography, Latin America

Julie A. Winkler, Ph.D., Minnesota, 1982, Assistant Professor—synoptic climatology, severe local storms, natural hazards

David J. Wishart, Ph.D., Nebraska, 1971, Associate Professor—historical, cultural, perception of past environments, Great Plains

AFFILIATED STAFF: Other persons teaching geography courses and/or working closely with geography students:

Frederick C. Luebke, Ph.D., (history), Nebraska, Professor and Director of Center for Great Plains Studies—Great Plains, ethnic group settlement

Gary E. Moulton, Ph.D., (history), Oklahoma State—Center for Great Plains Studies, editor of Lewis and Clark Expedition journals

Mary-Louise Quinn, Ph.D., (geography), U.C., Berkeley, Assistant Professor—water resources

Donald C. Rundquist, Ph.D., (geography), Nebraska, Associate Professor—remote sensing

John F. Shroder, Jr., Ph.D., (geology), Utah, Professor—tropical and periglacial geomorphology

William J. Wayne, Ph.D., (geology), Indiana, Professor—geomorphology, urban geology, Quaternary studies

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Ph.D.:

Hill, Michael R. "Spatial Structure and Decision-Making Aspects of Pedestrian Route Selection through an Urban Environment," 1982.*

Master's:

Cerveny, Randall S. "A Dynamic Parameterization of a Surface Wind Field into a Sellers-Type Global Climate Model," 1983.*

Dorman, Jeffrey L. "Diurnal Variability of Summertime Precipitation in Nebraska," 1983.*

Robertson, Catherine S. "The Development of a Commercial Landscape in Lincoln, Nebraska, 1880-1920," 1983.*

University of Nebraska at Omaha

DEPARTMENT OF GEOGRAPHY-GEOLOGY

DATE FOUNDED: 1958 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 24
NOT IN RESIDENCE: 5

CHAIRMAN: Charles R. Gildersleeve

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Joseph S. Wood, Chairman, Graduate Program Committee, Department of Geography-Geology, University of Nebraska at Omaha, Omaha, Nebraska 68182
Telephone (402) 554-2662

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography-Geology provides opportunities for graduate work in a broad spectrum of systematic and technical fields. The department is well staffed and equipped to prepare students for careers in remote sensing applications, environmental analysis, planning, and further academic endeavors.

The University of Nebraska at Omaha operates a DEC VAX 11/780 computer with a high-speed link to two IBM 370 mainframes in Lincoln, Nebraska. The Remote Sensing Applications Laboratory has its own DEC PDP 11/23 computer supporting a Spatial Data Systems EYECOM II picture digitizer and color display. A Cipher tape-drive allows for the analysis of over 200 Landsat tapes stored at the lab. Software includes the Spatial Data Systems library (30 programs and 40 subroutines), UNORSAL, DIRS, and LARSEYS III multispectral algorithms. The Remote Sensing Applications Laboratory also has a computer mapping facility, which includes a Numonics 1224 digitizer/planimeter, three DEC VK-100 graphics terminals, an LA-34 graphics printer, and a Houston Instruments plotter. Additional equipment includes Kelsh and Balplex plotters, three Bausch and Lomb transfer scopes, an SDS density slicer, and assorted imagery and maps.

The department maintains cartographic and darkroom facilities including a 16" x 20" negative-format copy camera, a diffusion-transfer processor, and color reproduction capabilities.

The University Library maintains an especially good collection of urban materials, some 200 periodicals and journals of interest to geographers, and an extensive map collection.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The *Master of Arts* degree in geography is offered. Students must complete a minimum of 24 semester hours of approved graduate course work and 6 semester hours of thesis for a total of 30 semester hours. One general concepts course is required in addition to the thesis. Internships are available with local agencies.

Admission Requirements: An applicant for admission should present as a prerequisite a minimum of 15 semester hours of geography, including human and physical geography and cartography, with a minimum GPA of 3.0 on a 4.0 scale in the major program. Some background in physical geography is expected for teaching assistants. Deficiencies must be made up before a student is admitted to candidacy.

Financial Aid: A number of teaching and research assistantships are available each year for qualified applicants. The standard nine-month assistantship carries a stipend of about $3,920 plus tuition waiver and requires 20 hours of work per week.

Part-time and summer employment is occasionally available in the Remote Sensing Applications Laboratory. In addition, several firms provide compensation for work performed under the internship program.

STAFF:

Nicholas Bariss, Ph.D., Clark, 1967, Professor—geomorphology with emphasis on loess topography, climatology, Europe

George F. Engelmann, Ph.D., Columbia, 1978, Assistant Professor—vertebrate paleontology, Tertiary stratigraphy and sedimentation

Charles R. Gildersleeve, Ph.D., Nebraska-Lincoln, 1978, Associate Professor and Chairperson—economic, urban, Latin America, with emphasis on location theory and urban ethnicity

Mark S. Laustrup, M.A., Nebraska-Omaha, 1979, Manager, Remote Sensing Applications Laboratory

Harmon D. Maher, Jr., ABD, Wisconsin-Madison, Instructor—structural geology

Jeffrey S. Peake, Ph.D., Louisiana State, 1977, Associate Professor and Director, Remote Sensing Applications Laboratory—remote sensing, physical, climatology, resource conservation

Michael P. Peterson, Ph.D., SUNY Buffalo, 1982, Assistant Professor—remote sensing, computer mapping

Harold J. Retallick, Ph.D., Clark, 1950, Professor—urban geography, environmental studies

John F. Shroder, Jr., Ph.D., Utah, 1967, Professor—geology, geomorphology, resources, East Africa, Afghanistan, Pakistan

Philip E. Vogel, Ph.D., Nebraska-Lincoln, 1960, Professor—historical, agricultural, United States, history and philosophy of geography

Stephen J. White, ABD, New Mexico Institute of Mining and Technology, Instructor—geochemistry, mineralogy, petrology

Joseph S. Wood, Ph.D., Pennsylvania State, 1978, Associate Professor—human geography, urban cultural landscapes, historic preservation

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Hanson, Lyle W. "Some Aspects of the Nature and Extent of Absentee Land Ownership in Antelope County, Nebraska," 1982.*

Queen, Lloyd P. "Classification of Irrigated Crops in Box Butte County, Nebraska, Using Landsat," 1982.*

University of Nevada Reno

GEOGRAPHY DEPARTMENT

DATE FOUNDED: 1957 GRADUATE PROGRAM FOUNDED: 1980

DEGREES OFFERED: M.S. in Land Use Planning Policy

GRANTED 7/1/82–6/30/83: 0

GRADUATE STUDENTS IN RESIDENCE: 10

CHAIRMAN: Christopher H. Exline

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Christopher H. Exline, Geography Department, University of Nevada, Reno, Nevada 89557
Telephone (702) 784-6995

PROGRAMS AND RESEARCH FACILITIES: The Master's degree is offered in Land Use Planning and Policy. The program is interdisciplinary and involves the faculties and resources of the Departments of Agricultural and Resource Economics, Anthropology, Civil Engineering, Economics, Political Science, Renewable Natural Resources, and Geography.

The Geography Department will offer a Master of Science degree in Applied Geography beginning in 1984.

The Geography Department houses a complete weather station, an extensive map collection, a well-equipped cartography laboratory (including a ZTS system), and a laboratory equipped for the study of physical geography—especially mountain environments, climatology, and weather modification. The Department is developing facilities for computer mapping and the analysis of remotely sensed data.

The University is comprised of the full range of programs and facilities found in land-grant institutions. The University Library contains an excellent journal collection.

Reno is uniquely situated for the study of Land Use Planning. Located 30 miles from the capital of the nation's most rapidly growing state, Reno offers access to the alpine and recreational environments at Lake Tahoe, high deserts, and basin and range, and is a four-hour drive from the San Francisco Bay Area.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. A minimum grade-point average of 3.0, as well as completion of the Graduate Record Examination, are required for admission. There are, at present, no financial aids for this program; however, research assistantships may be available in the future.

STAFF:

Christopher H. Exline, Ph.D., UC, Berkeley, 1978, Associate Professor and Chairman—urban, planning, cartography, remote sensing

John W. James, M.S., Oregon, 1962, Lecturer—climatology, weather modification, environmental studies, mountain environments

Earl W. Kersten, Ph.D., Nebraska, 1961, Professor—historical, economic, resources, physical

Terrill J. Kramer, Ph.D., Illinois, 1973, Associate Professor—cultural, Middle East, cartography

University of New Mexico

GEOGRAPHY DEPARTMENT

GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A.

GRANTED 7/1/82–6/30/83: 6

GRADUATE STUDENTS IN RESIDENCE: 19
NOT IN RESIDENCE: 4

CHAIRMAN: Stanley A. Morain

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Assistant Professor Dennis E. Fitzsimons, Geography Department, University of New Mexico, Albuquerque, New Mexico 87131
Telephone (505) 277-5041

PROGRAMS AND RESEARCH FACILITIES: The graduate program's principal focus is applied geography with emphasis on remote sensing, cartography, and environmental, urban, and regional planning. Basic to this applied program are courses in physical and human geography, man-environment relationships, Southwestern U.S., Latin America, and field methods. Other areas of concentration within geography may be selected if consonant with faculty interests and university resources. The department is an active participant in the university's strong program of Latin American Studies.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The university operates on the semester system. Both thesis and non-thesis plans are offered. With the exceptions of two required courses—a Seminar in the History and Philosophy of Geography, and Field Methods—each graduate program is individually designed by the student and his or her adviser. Students without an undergraduate degree in geography should be prepared to make up deficiencies as determined by their adviser and the Geography Graduate Studies Committee.

Admission to the graduate program requires the applicant to (1) hold a bachelor's degree from an accredited college or university, (2) have at least a B average in the last two undergraduate years, and (3) make formal application to the Office of Graduate Studies. Prospective students should include a brief statement explaining their purposes and goals in undertaking graduate studies in geography.

Applications for Teaching/Graduate Assistantships should be received by March 1. Additional financial aid may be available through the department's cartographic laboratory, internship program, and/or faculty research grants.

STAFF:

Elinore M. Barrett, Ph.D., UC, Berkeley, 1970, Professor—cultural-historical, Latin America

Iven V. Bennett, Ph.D., Boston, 1962, Professor—climatology, United States and Canada

Robert D. Campbell, Ph.D., Clark, 1949, Emeritus Professor of Geography—environmental systems, psychological geography

Bradley T. Cullen, Ph.D., Michigan State, 1980, Assistant Professor—economic, quantitative methods

Dennis E. Fitzsimons, Ph.D., Kansas, 1981, Assistant Professor—cartography, field methods

Stanley A. Morain, Ph.D., Kansas, 1970, Associate Professor and Chairman—biogeography, geography of soils, remote sensing

Rodman E. Snead, Ph.D., Louisiana State, 1963, Professor—geomorphology, map reading and air photo interpretation, Middle East, South Asia

Jerry L. Williams, Ph.D., Oregon, 1977, Assistant Professor—urban, land use planning, Africa

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Fink, Mark A. "Analysis of Center Pivot Irrigation Corners Using Simulated Thematic Mapper Scanner Data—New Mexico," 1982.

Hannaford, Katherine J. "A Geographic Analysis of Reported Child Abuse and Neglect in Bernalillo County, New Mexico," 1982.

Nighbert, Jeffery S. "An Evaluation of Landsat Capabilities for Mapping Pinyon/Juniper," 1982.

Seidler, Kim L. "Central Places of the Estancia Basin," 1983.

Smith, D. Karleene. "Changing Patterns of Residential Vegetation: Trees and Shrubs in Albuquerque Front Yards," 1982.

University of North Carolina, Chapel Hill

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1936 GRADUATE PROGRAM FOUNDED: 1936

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 4 M.A. 5 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 22 M.A. 10 Ph.D.
NOT IN RESIDENCE: 7 M.A. 7 Ph.D.

CHAIRMAN: Richard J. Kopec

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Richard J. Kopec, Chairman, Department of Geography, UNC-Chapel Hill, 203 Saunders Hall 043-A, Chapel Hill, North Carolina 27514
Telephone (919) 962-8901

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers both M.A. and Ph.D. degrees. Intensive training is offered in urban-economic, population-medical, physical environment and cartographic fields. Emphasis is placed on analysis of problems which have an applied aspect and consequently have implications for policy development. Programs are tailored to the student's interests and normally include courses in other departments such as economics, city and regional planning, sociology, political science, epidemiology, or environmental science and engineering.

Students have access to the facilities of the Institute for Research in Social Science, Institute of Latin American Studies, Institute of Government, Carolina Population Center, Institute of Statistics and the Water Resources Research Institute. Cooperative programs among the University of North Carolina, Duke University and North Carolina State University permit use of their combined library holdings, courses, and facilities. IBM System 4341 computers are available through the Computation Center on campus and are linked to the Department by Tektronix, Apple II, TSR-80, and Teleray remote terminals. Cartographic facilities include a computer graphics room equipped with several microcomputers, two digitizers, two plotters, a printer and other devices. The nearby Research Triangle Park provides a unique complement of private and governmental research facilities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates under the semester system. Several University fellowships are available for first-year students with superior academic records.

Departmental graduate assistantships are awarded on a competitive basis as are research assistantships provided by the various centers and institutes. These assistantships usually carry in-state tuition. Departmental assistantships normally require the recipient to teach discussion sections of introductory courses. Part-time teaching of extension courses in nearby colleges also may be available to qualified applicants. Presently, 25 graduate students are financially supported through the Geography Department.

Forms for admission to the Graduate School and for financial assistance are obtained directly from the Graduate School Admissions Office, Bynum Hall 008-A, University of North Carolina, Chapel Hill, North Carolina 27514.

Two copies of all undergraduate and graduate transcripts and scores from the general aptitude section of the Graduate Record Examination are a part of the application. Prospective students should include a brief one- to two-page statement explaining their purposes and goals in undertaking graduate study in geography.

February 1st is the deadline for applications and notification of fellowship awards is sent out shortly thereafter. Applications for admission without aid will be considered until late spring.

STAFF:

David G. Basile, Ph.D., Columbia, 1964, Professor Emeritus—economic resources, Latin America

Stephen S. Birdsall, Ph.D., Michigan State, 1968, Professor—social, transportation, North America

Clyde E. Browning, Ph.D., Washington, 1958, Professor—urban, South, quaternary economic

John D. Eyre, Ph.D., Michigan, 1951, Professor—political, Asia

John W. Florin, Ph.D., Pennsylvania State, 1971, Associate Professor—population, medical, historical Anglo-America

Wilbert M. Gesler, Ph.D., North Carolina-Chapel Hill, 1978, Assistant Professor—medical, quantitative methods, Africa

Arthur J. Hawley, Ph.D., Michigan, 1968, Assistant Professor—food resources, water resources, remote sensing, field methods

Richard J. Kopec, Ph.D., Clark, 1965, Professor and Chairman—climatology, cartography

Melinda S. Meade, Ph.D., Hawaii, 1974, Associate Professor—medical, population, Southeast Asia

Barry M. Moriarty, Ph.D., Michigan State, 1970, Professor—urban, location theory, microspatial behavior

Peter J. Robinson, Ph.D., McMaster, 1972, Associate Professor—meteorology, climatology

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Brown, William. "Transportation and the Rural Black Population: An Analysis of Bertie County, North Carolina," 1983.

Burrell, Stephen. "Geographic Perspectives on the Relationship of Air Force Base Realignments to Rural Community Welfare in the U.S.," 1982.

Matchak, Stephen. "Folk Housing in the Northeast," 1982.

Rice, Gwenda. "Changing Mortality Patterns in North Carolina: 1920-1970," 1983.

Stribling, Dorothy. "Holistic Health: A Changing Paradigm for Cultural Geography," 1983.

Master's:

Blanton, Patricia. "Chinese Americans: The Spatial Dynamics of a Politically Constrained Population, 1870 to 1980," 1983.

Herman, Steven. "Lake Alamor, California: The Long-Term Local Effects of Reservoir Creation on a Mountain Community," 1983.

Kalipeni, Ezekiel. "A Geo-Demographic Analysis of Malawi's Population: Current Trends, Patterns, Characteristics, and Policy Implications," 1983.

McMillan, William. "Strategic Stockpiling: The Case of Tin and Cobalt," 1983.

University of North Carolina at Charlotte

DEPARTMENT OF GEOGRAPHY AND EARTH SCIENCES

DATE FOUNDED: 1965 GRADUATE PROGRAM FOUNDED: 1973

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 20
NOT IN RESIDENCE: 6

CHAIRMAN: Alfred W. Stuart

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Advisory Committee, Department of Geography and Earth Sciences, University of North Carolina at Charlotte, UNCC Station, Charlotte, North Carolina 28223
Telephone (704) 597-2293

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography and Earth Sciences offers an M.A. degree that is strongly oriented to the application of geographic concepts and methods to the contemporary world. Applications of cartography, computerized graphics, quantitative methods and remote sensing are emphasized. Major facilities include a fully equipped cartography lab with three darkrooms and a terminal room that houses the computerized Regional Information System, a joint undertaking with the Urban Institute. Graduates of the program are prepared to work as professionals in areas such as urban and regional planning research, locational analysis, community college teaching, marketing research, cartography, and environmental problems. Most students are placed with a local company or agency, in a directed internship in lieu of the traditional thesis research. Each internship student completes a research project that is the basis for a final thesis-type report.

Student programs are individually tailored, and up to one-third of courses can be taken in related fields.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates under the semester system. Teaching assistantships carry stipends of $4725 and remission of the nonresident portion of tuition is usually available. Part-time teaching is sometimes available as is employment in the departmental cartographic lab. Students on internships receive a stipend that is usually more than that paid to teaching assistants. Application forms should be obtained from the Director of Graduate Studies, University of North Carolina at Charlotte, UNCC Station, Charlotte, North Carolina 28223, or from the Department. An official transcript of all previous academic work is required plus scores from either (1) the general aptitude section of the Graduate Record Examination, or (2) the Miller Analogies Test and the Doppelt Mathematical Reasoning Examination. An undergraduate geography major is not required, but those students who are deficient in the basic concepts and methods of geography will be required to take prerequisite coursework.

Applications for teaching assistantships should be received by March 1. Awards are announced by about April 1. Applications for admission without aid are considered until one month prior to the beginning of any semester. Financial aid is sometimes available beginning in the Spring semester as well.

FULL-TIME AND PART-TIME STAFF:

John F. Bender, Ph.D., SUNY at Stony Brook, 1980, Assistant Professor—geochemistry, petrology

Andy R. Bobyarchick, Ph.D., SUNY at Albany, 1983, Assistant Professor—structural geology

James W. Clay, Ph.D., UNC Chapel Hill, 1969, Professor and Director, Urban Institute—resources, Latin America, environment, cartography

Owen J. Furuseth, AICP, Ph.D., Oregon State, 1978, Assistant Professor—land use planning, environmental impact analysis, man-land studies

Gail G. Gibson, Ph.D., New Mexico, 1975, Assistant Professor—stratigraphy, sedimentology

Gerald L. Ingalls, Ph.D., Michigan State, 1973, Associate Professor—political, urban, crime

Sallie M. Ives, Ph.D., Illinois, 1977, Assistant Professor—urban, social cognition, social impact analysis

J. Dennis Lord, Ph.D., Georgia, 1970, Professor—urban-economic, marketing, quantitative

Walter E. Martin, Ph.D. candidate, Tennessee, Lecturer—cultural, historical, physical

Tyrel G. Moore, Ph.D. candidate, Tennessee, Lecturer—cultural, historical, economic

Nelson R. Nunnally, Ph.D., Illinois, 1965, Professor—physical, quantitative methods, remote sensing

Douglas M. Orr, Jr., Ph.D., UNC Chapel Hill, 1968, Professor and Vice Chancellor for Research and Public Service—political, cultural, Europe

Gerald F. Pyle, Ph.D., Chicago, 1970, Professor—urban, medical

Norman W. Schul, Ph.D., Syracuse, 1962, Professor and Special Assistant to the Chancellor—Asia, economic

Jefferson L. Simpson, M.Ed., UNC Charlotte, 1974, Lecturer and Staff Cartographer—cartography

Paul D. Smith, M.A., Michigan State, 1980, Lecturer and Director of Regional Information System—computer graphics

Donald Steila, Ph.D., Georgia, 1971, Associate Professor—soils, climatology

Alfred W. Stuart, Ph.D., Ohio State, 1966, Professor and Chairman—the South, manufacturing, polar regions

Taz Tally, Ph.D., UC, Santa Barbara, 1980, Assistant Professor—geomorphology, environmental geology

Wayne A. Walcott, Ph.D., Illinois, 1974, Associate Professor—transportation, industrial, location theory

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:
Hinson, Charlotte. "Racial Residential Segregation Trends in Mecklenburg County, 1970-1980," 1983.
Thomas, Carlton W. "Market Area Analysis for Sportsclocks, Inc.," 1983.

University of North Dakota

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1884 GRADUATE PROGRAM FOUNDED: 1940

DEGREES OFFERED: M.A., M.S., M.Ed.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 7

CHAIRMAN: Kang-tsung Chang

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Kang-tsung Chang, Department of Geography, University of North Dakota, Grand Forks, North Dakota 58202
Telephone (701) 777-4246

PROGRAMS AND RESEARCH FACILITIES: Graduate programs available include the Master of Arts and Master of Science degrees (thesis required) and the Master of Education degree (non-thesis). Designed to prepare graduate students for doctoral study or for a professional level career in government, industry, or education, the geography curriculum is oriented to professional competence in the discipline. The graduate student in geography is expected to develop both a systematic and a regional interest, basic research tools and techniques, and a knowledge of geographic theory and concepts.

The Department of Geography operates the U.S. National Oceanographic and Atmospheric Service Weather Station at Grand Forks complete with evapotranspiration and meteorological instrumentation including air quality surveillance monitors. The Department maintains an extensive collection of climatic data for the Northern Plains region and is a depository for the Army Map Service. The departmental library contains a large topographic and wall map collection as well as selected books and periodicals. In addition to well-equipped cartographic, photographic, computer, and statistical facilities, the Department houses the University of North Dakota Institute for Remote Sensing.

Research reflecting the interests of individual faculty members includes systematic and topical aspects of geography. Technique interests include cartography, computer graphics, air photo interpretation,remote sensing, quantitative applications and field techniques. Regional interests extend over much of the world although completed master's theses refl[illegible]n emphasis on the Northern Great Plains region.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The graduate program in geography at the University of North Dakota has been developed with the presumption that entering students normally would have successfully completed an undergraduate major and hold a Bachelor's degree in geography from a recognized institution. However, outstanding applicants are evaluated on an individual basis and those with limited backgrounds in geography but a distinguished record in another discipline may be accepted on a provisional basis with the understanding that deficiencies would be remedied early in the graduate program. Admission to approved status for graduate work in geography requires a GPA of at least 3.00 in all undergraduate work and a minimum of 18 semester credits of undergraduate work in geography (at least one course in each of the following fields: physical, cultural, regional, and techniques) plus 6 credits in fields cognate to geography.

STAFF:

Ralph C. Brown, Ph.D., Syracuse, 1964, Professor—economic, rural, population, political, map reading, North Polar Region, Africa, North America

Kang-tsung Chang, Ph.D., Clark, 1971, Professor—cartography, spatial analysis, computer applications

William A. Dando, Ph.D., Minnesota, 1969, Professor—agriculture, field methods, physical, meteorology, climatology, remote sensing, U.S.S.R., Eastern Europe

Floyd C. Hickok, A.B.D., U.C., Davis, 1978, Research Fellow and Staff Cartographer—cartography, computer graphics, agriculture, North America

Roland D. Mower, Ph.D., Kansas, 1971, Associate Professor—agriculture, land use, remote sensing, conservation, Latin America, cultural, physical, meteorology

Douglas C. Munski, Ph.D., Illinois, 1978, Assistant Professor—historical, geographic education, North America, cultural, urban, North Dakota

John W. Wyckoff, Ph.D., Utah, 1980, Assistant Professor—remote sensing, biogeography, land use, air photo interpretation, field methods, environmental impact analysis

EMERITUS FACULTY:

Bernt L. Wills, Ph.D., Northwestern, 1953, Professor of Geography

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Ardila, Myriam. "Analysis of Remote Sensing Techniques for Ecodevelopment Inventory: Rio Magdalena Estuarine Region of Colombia," 1983.

Deitz, Michael. "Developing Wind Energy for North Dakota," 1982.

Donnelly, Patrick. "Stream Sediment Load as a Factor in Estimating Denundation of the Riding Mountain Escarpment, Manitoba," 1982.

Ericson, James. "The Effects of Interstate 80 on the Use of Staging Areas by Sandhill Cranes," 1983.

Fuller, Thomas. "The Geoelectric Power Potential of the Arkansas River Basin of Colorado: An Appraisal," 1982.

Mullis, Chad. "An Eye-Movement Analysis of the Effect of Map Design on Map Communication," 1982.

Wilson, Jane. "Changing Land Use in the Rural-Urban Fringe: A Case Study of Southwest Grand Forks," 1982.

North Texas State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1920 GRADUATE PROGRAM FOUNDED: 1978

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 10

CHAIRMAN:

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Department of Geography, North Texas State University, Denton, Texas 76203
Telephone (817) 565-2091

PROGRAMS AND RESEARCH FACILITIES: Two programs are offered: (1) *Master of Science in Interdisciplinary Studies: Regional Science and Planning*—The Master of Science degree offered through the Department of Geography also draws upon courses in economics, sociology, real estate, and political science. The program meets the selective needs of professional planners in both the public and private sectors, in particular spatial planning and development at the regional and local level, with emphasis on urban and economic patterns. The program provides a solid foundation in spatial theory and practical-technical skills, including computer applications and mapping and quantitative methods. An internship is optional in the 36-hour program. (2) *Master of Science in Interdisciplinary Studies: Land and Water Resource Assessment and Management*—The Department of Geography, in cooperation with the Institute of Applied Sciences and the Department of Biological Sciences, offers a focus in Land and Water Resources Assessment and Management that is designed to train individuals in the practical methods for assessing resources and the application of these skills through work on land and water problems.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. *Admission:* Applicants must submit scores on the Graduate Record Examination. No specific number of undergraduate hours in geography is required for admission to the M.S. program, but remedial undergraduate courses may be necessary in individual cases. *Financial Assistance:* For full-time on-campus students, teaching assistantships are available.

STAFF:

John L. Bean, Ph.D., Pittsburgh, 1967, Associate Professor—computer graphics, urban regional science

Stephen A. Hall, Ph.D., Michigan, 1975, Associate Professor—environmental geology

William M. Holmes, Ph.D., Texas, 1975, Assistant Professor—cartography, rural land use

Kent M. McGregor, Ph.D., Kansas, 1982, Assistant Professor—climatology, remote sensing

F. Andrew Schoolmaster III, Ph.D., Kent State, 1979, Assistant Professor—recreational geography, quantitative methods

Northeast Louisiana University

DEPARTMENT OF GEOSCIENCES

DATE FOUNDED: 1972 GRADUATE PROGRAM FOUNDED: 1972

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 2
NOT IN RESIDENCE: 3

CHAIRMAN: Mervin Kontrovitz

FOR CATALOG WRITE TO: NLU Bookstore, Northeast Louisiana University, 700 University Avenue, Monroe, Louisiana 71209, and enclose $1.25.

FOR FURTHER INFORMATION WRITE TO: Admissions Office, Northeast Louisiana University, 700 University Avenue, Monroe, Louisiana 71209.
Telephone (318) 342-4110 (Bookstore)
(318) 342-4170 (Admissions Office)

PROGRAMS AND RESEARCH FACILITIES: The department offers the M.S. in Geosciences with a major in either geography or geology. Most students emphasize urban planning or regional studies, but through interdisciplinary work other fields can be pursued. The library contains over 300,000 monographs, 3000 journal and newspaper subscriptions, 300,000 volumes in microformat, and 50,000 federal and state documents. A computer center is available for student use and modern facilities for research in the biological sciences are housed in a nearby building. Cartography is required if not taken as an undergraduate.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The university is on a trimester plan with sessions beginning in late August, mid-January, and early June. The last consists of two separate sessions, making it possible to get a semester's work completed in the summer. Teaching or work assistantships are normally available. Stipends range from $600 to $2250 per semester, with most being close to or at the latter figure. Tuition and most fees are waived for students holding assistantships. In addition to fulfilling the university requirements, applicants for admission to the M.S. degree in Geosciences must meet the following criteria:

(1) A minimum score of 900 on the Graduate Record Examination (quantitative plus verbal), and

(2) A minimum undergraduate grade-point average of 2.8 during the junior-senior years, or a 3.0 in all geoscience courses.

STAFF:

E. G. Anderson, Ph.D., Louisiana State, 1981, Associate Professor—structural geology, subsurface geology, stratigraphy

René A. DeHon, Ph.D., Texas Tech, 1970, Associate Professor—mineralogy, petrology, geomorphology, planetary geology

Hugh H. Doney, Ph.D., Texas, 1966, Professor—field geology, stratigraphy, vertebrate paleontology, paleontology

Bobby L. England, Ph.D., East Texas State, 1968, Associate Professor—Latin America, political

Lloyd N. Glawe, Ph.D., Louisiana State, 1966, Professor—paleontology, micropaleontology, Gulf Coast geology

Mervin Kontrovitz, Ph.D., Tulane, 1971, Associate Professor—physical geography, paleoecology

John C. Lewis, Ph.D., Louisiana State, 1973, Associate Professor—urban, economic, South Asia, East Asia, Louisiana, settlement

Paul L. Rawson, M.A.T., Harvard, 1950, Associate Professor—Europe, U.S.S.R., Asia, North America, climatology

Northeastern Illinois University

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

DATE FOUNDED: 1961 GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A., Geography and Environmental Studies
M.A., Geography and Environmental Studies: Urban Land-Use Planning

GRANTED 7/1/82-6/30/83: 9

GRADUATE STUDENTS IN RESIDENCE: 59
NOT IN RESIDENCE: 0

CHAIR: Robert F. Easton

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Barbara J. Winston, Graduate Coordinator, Department of Geography and Environmental Studies, Northeastern Illinois University, 5500 N. St. Louis Avenue, Chicago, Illinois 60625 Telephone (312) 583-4050, ext. 791

PROGRAMS: Course requirements include 33 semester hours tailored to the individual's program and career interests. The sequence leading to an M.A. in Geography and Environmental Studies is designed to train persons for positions in education, industry, government, environmental interpretation, and other areas where geographers and environmentalists are needed. The sequence in Urban Land-Use Planning is designed to train city planners specializing in land-use. Internships are required in the Urban Land-Use Planning Sequence.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Students must fulfill requirements for admission to the Graduate College, must have at least 15 hours in geography, or may be admitted conditionally with 6 semester hours in geography and must remove the deficiency. Contact Dean, Graduate College, for financial aid information. A graduate assistantship and merit tuition waivers are available.

STAFF:

C. Wallace Dierickx, Ph.D., Northwestern, 1955, Professor—economic, Africa, comparative world cultures

Robert F. Easton, M.A., Northwestern, 1967, Assistant Professor and Chair—physical, geomorphology, climatology

William L. Howenstine, Ph.D., Michigan, 1959, Professor—natural resources policy, planning, and management; environmental interpretation; population policy

Ying-Cheng Kiang, Ph.D., Columbia, 1955, Professor—urban, Chicago, Asia

Karl M. Kriesel, Ph.D., Michigan, 1970, Professor—cultural, political, scope and philosophy of geography, planning

William Millard, Ph.D., Minnesota, 1969, Associate Professor—recreation, conservation, urban historic preservation

Musa Qutub, Ph.D., Iowa State, 1969, Professor—physical, hydrology and water resources, environmental education

Barbara Winston, Ph.D., Northwestern, 1974, Professor—environmental education, environmental perception, geographic education

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Brady, Patrick G. "The Environmental Viability of Glacial Drift Aquifers in Will County, Illinois," 1983.

Larson, Carol. "Home Food Production Network in McHenry County, Illinois," 1983.

University of Northern Colorado

GEOGRAPHY DEPARTMENT

DATE FOUNDED: 1968 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., D.A.

GRANTED 7/1/82-6/30/83: 6 M.A. 2 D.A.

GRADUATE STUDENTS IN RESIDENCE: 4 M.A. 5 D.A.
NOT IN RESIDENCE: 4 M.A. 9 D.A.

CHAIRMAN: Charles O. Collins

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Charles O. Collins, Chairman, Geography Department, University of Northern Colorado, Greeley, Colorado 80639
Telephone (303) 351-2715

PROGRAMS AND RESEARCH FACILITIES: *Doctor of Arts*—The Doctor of Arts degree is designed for those interested in creative teaching at the junior (community) or senior college level with a complementary commitment to research. Most course work is in geography; however, based upon individual needs and interests, the program is adequately flexible and the opportunity to work in supportive areas is strongly encouraged. Graduate level course work in pedagogy and a supervised teaching experience prepare the candidate for a college teaching career.

Research training culminates in a dissertation based upon original independent investigation of a geographic problem, a teaching strategy or technique pertinent to geography, or an original synthesis and evaluation of materials potentially valuable to college teaching in the discipline. *Master of Arts*—The Geography Department offers a Master of Arts degree in geography that is flexible and may be designed as a terminal degree or as a foundation for additional graduate study.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates year-round on the quarter system. Students may enter the program at the beginning of any quarter. An appropriate baccalaureate degree from an accredited institution and a formal application to the Office of the Graduate School are required for admission. Students in need of financial assistance to meet educational expenses are invited to correspond with the Financial Aids Office and Geography Department.

STAFF:

David B. Cole, Ph.D., Colorado, 1975, Associate Professor—geographic education, social geography, population

Charles O. Collins, Ph.D., Kansas, 1973, Associate Professor—Mexico and Caribbean, population, agriculture, cultural

John L. Dietz, Ph.D., Syracuse, 1970, Professor—economic, Anglo-America, Great Plains, U.S.S.R.

Kevin C. Kearns, Ph.D., St. Louis, 1966, Professor—political, South America, Ireland

Katherine L. Kutsche, Ph.D., Indiana, 1978, Assistant Professor—urban, transportation, planning

Paul L. Lehrer, Ph.D., Nebraska, 1962, Professor—physical, soils, Africa, western Europe

Richard K. Ormrod, Ph.D., Pennsylvania State, 1974, Associate Professor—recreation, man-environment, Caribbean

Steven L. Scott, D.A., Northern Colorado, 1973, Associate Professor—cartography, Anglo-America, Great Plains

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

D.A.:

Addicott, James T. "An Analysis of Blighted Housing in St. Cloud, Minnesota," 1983.* Mf., University Microfilms.

Forth, Donald J.P. "A Geography Course for the Non-Transfer Community College Student," 1982.* Mf., University Microfilms.

Master's:

Homan, Kurt A. "Spatial Analysis of Energy Firm Location in Denver CBD," 1982.

Northern Illinois University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1968 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.S.

GRANTED 7/1/82–6/30/83: 8

GRADUATE STUDENTS PART-TIME: 17
FULL-TIME: 13

CHAIRMAN: Donald W. Maxfield

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Prof. Donald W. Maxfield, Chairman, Department of Geography, Northern Illinois University, DeKalb, Illinois 60115
Telephone (815) 753–0631

PROGRAMS AND RESEARCH FACILITIES: A student who elects a major in geography leading to the Master of Science degree arranges a program of courses totaling a minimum of 30 semester hours in consultation with his/her adviser. This program will include a course in research design, and usually, a total of 20 semester hours of geography courses. Students may choose to write a thesis or elect the non-thesis option. Additional requirements include: (1) passing a course in advanced quantitative techniques or passing a reading knowledge examination in a modern foreign language appropriate to the student's research interests or satisfactory completion of a course in advanced field methods (The advanced field methods option is intended only for individuals teaching or planning to teach at the elementary or secondary levels.), (2) passing a comprehensive written examination, and (3) passing a course in research methods.

Special facilities include laboratories for studies in computer cartography, climatology, meteorology, remote sensing, and soils. The Department has two computer terminals. The Cartographic Laboratory is equipped with a Calcomp 663 drum plotter, 770 tape drive, Altek digitizer, Bausch and Lomb zoom transfer scope, Kelsh plotter, Diatype phototypesetting unit, Brown 3n1 process camera, and a photographic darkroom. A student-run weather station is equipped with Service A teletype and National Weather facsimile circuits. Additional equipment includes a variety of air quality monitoring instruments, radar facsimile receiver, and a low-altitude tethered balloonsonde. The University AMDAHL V7 and CDC CYBER 170 computers are accessible to any graduate student. In addition to the facilities of a rapidly growing University library, a map library with holdings of 139,000 maps and over 900 atlases is conveniently located.

The Department of Geography has developed staff strength in four clusters: applied meteorology/climatology, environmental management, applied urban/economic, and area studies. Graduate course groupings include applied meteorology, agro-climatology, climatic change, and environmental quality, evaluation and management. Other examples are programs in planning that include growth management, locational analysis, and the development of mapping systems for local and regional agencies. In addition, Geography participates in the programs of the Center for Southeast Asian Studies and the Center for Governmental Studies. The location of the University relative to the Chicago and Rockford metropolitan areas provides an impressive range of research opportunities in urban studies, planning, and environmental management.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: N.I.U. operates on a semester system. Admission as a graduate student requires a bachelor's degree from an accredited college or university, a GPA of at least 2.5 (4-point system), and approval of the Department of Geography. All prospective graduate students must take the Graduate Record Examination (verbal and quantitative) prior to admission.

Assistantships and fellowships carry stipends to $4500 for the academic year plus waiver of registration and out-of-state fees. Applications for graduate assistantships and fellowships for 1984-85 should be sent prior to February 15, 1984. Geography also offers a variety of internships with planning agencies and industry in the northern Illinois area. These internships provide a stipend and, in some cases, waiver of tuition and summer support. Students interested in internships should direct inquiries to the Department Chairman. N.I.U. does not discriminate on the basis of the race, creed, color or national origin of any applicant.

STAFF:

Kenneth L. Bowden, M.S. Ed., Northern Illinois, 1957, Assistant Professor—hydrology, water resources, physical

Alan L. Cole, Ph.D., Michigan, 1962, Associate Professor—applied meteorology, instrumentation and measurements

Richard E. Dahlberg, Ph.D., Wisconsin, 1959, Professor—cartography

C. Daniel Dillman, Ph.D., Michigan, 1968, Professor—Latin America, rural landscapes, physical

B. Ross Guest, Ph.D., Chicago, 1951, Professor—environmental management, U.S.S.R., Anglo-America

Leonard J. Kouba, Ph.D., Boston, 1970, Associate Professor—conservation, physical, Africa

Cornelius J. Loeser, Ph.D., UCLA, 1965, Assistant Professor—cultural, East Asia

Donald E. Luman, Ph.D., Illinois, 1977, Faculty Research Associate—remote sensing, cartography, physical geography

Donald W. Maxfield, Ph.D., Iowa, 1967, Associate Professor and Chairman—urban, remote sensing

A. Steven Messenger, Ph.D., Michigan State, 1966, Associate Professor—soils, forestry, biogeography

Clayton H. Reitan, Ph.D., Wisconsin, 1971, Associate Professor—meteorology, climatology

Allen Staver, Ph.D., Wisconsin, 1969, Associate Professor—dynamic meteorology, numerical weather prediction

Charles E. Trott, Ph.D., Ohio State, 1969, Associate Professor and Associate Dean, College of Liberal Arts and Sciences—urban, migration analysis, health planning, applied statistics

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Plonczynski, James J. "Importance of Community Services and Locations of Industrial Firms in DuPage County, Illinois," 1983.

Tobias, Ruth Anne. "An Ethnographic Account of Neighborhood Change: A Case Study of East Flatbush, New York," 1982.

Zuzolo, Phillip A. "Summer Temperature in the Upper Middle West, 1931-1976—Statistical Viewpoints," 1982.

University of Northern Iowa

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1959 GRADUATE PROGRAM FOUNDED: 1969

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 3
NOT IN RESIDENCE: 2

HEAD: Basheer K. Nijim

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Basheer K. Nijim, Head, Department of Geography, University of Northern Iowa, Cedar Falls, Iowa 50614
Telephone (319) 273-2772

PROGRAMS AND RESEARCH FACILITIES: The prospective student will especially benefit from the Department's offerings in planning and applied economic and urban geography, cartography, methodology (theoretical and quantitative), population studies, environmental and resource management, cultural, political, and rural geography. Regional emphases include Anglo-America, East Asia, the Middle East, and Europe.

The Department has separate labs for cartography, photography, and physical geography, and it has access to excellent computer facilities.

The program is flexible and provides extensive personal contact between the faculty and the students.

The Department publishes *Geographical Perspectives,* a semiannual journal.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. A graduate of an accredited undergraduate program may be admitted. A departmentally administered diagnostic examination is required of all new students. A minimum grade average of B must be maintained. Assistantships and other possibilities of financial support are available.

STAFF:

C. Murray Austin, Ph.D., Pennsylvania, 1971, Associate Professor—urban, economic, quantitative methods, theoretical, futures, geographic education

Roy Chung, M.A., Wisconsin-Madison, 1955, Associate Professor—population, theoretical, quantitative, developing areas, computer mapping

Robert E. Clark, Ph.D., Nebraska, 1974, Assistant Professor—cultural, rural settlement, rural planning, historical geography of the United States, Europe, Anglo-America

James F. Fryman, Ph.D., North Carolina, 1981, Assistant Professor—population, political, air photo interpretation, cartography

Jonathan J. Lu, Ph.D., Washington, 1971, Professor—agricultural, economic, world food resources, East Asia, geography of the Bible

Basheer K. Nijim, Ph.D., Indiana, 1969, Professor—political, population, Middle East, cartography

Brenton M. Yarnal, Ph.D., Simon Fraser, 1982, Assistant Professor—climatology, Quaternary studies

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Knapp, Jeff Lynn. "The Erosional Cycle of Upland Wetlands Created by Eolian Sands," 1983.

Northern Michigan University

DEPARTMENT OF GEOGRAPHY, EARTH SCIENCE, AND CONSERVATION

DATE FOUNDED: 1923 GRADUATE PROGRAM FOUNDED: 1969

DEGREES OFFERED: M.A., M.A. in Education

GRANTED 7/1/82-6/30/83: 2

GRADUATE STUDENTS IN RESIDENCE: 10
NOT IN RESIDENCE: 13

HEAD: Jarl Roine

FOR CATALOG AND INFORMATION WRITE TO: Chairman, Graduate Programs Committee, Department of Geography, Earth Science, and Conservation, Northern Michigan University, Marquette, Michigan 49855
Telephone (906) 227-2500

PROGRAMS AND RESEARCH FACILITIES: The program is designed to provide for a broad range of interests leading to employment in teaching, business, and government service. The department is housed in a modern science building with excellent equipment. Available are a new growing library, field courses, computer facilities, and internships in planning.

ACADEMIC PLAN: Semester system plus intersession and summer program. *Admission Requirements:* Bachelor's degree from accredited institution. *Financial Aid:* Graduate Assistantships available.

STAFF:

Steven A. Carlson, Ph.D., Washington, 1977, Associate Professor—rural land-use planning, biophysical analysis, resources

Fillmore C. F. Earney, Ph.D., Michigan State, 1965, Professor—minerals, U.S.S.R., political

John P. Farrell, M.A., Michigan, 1955, Professor—cartography, field techniques, planning

John D. Hughes, Ph.D., Northwestern, 1963, Professor—Great Lakes, geomorphology, shoreline processes

Alfred N. Joyal, Ph.D., Iowa, 1980, Associate Professor—recreation, behavioral, quantitative methods

Bernard C. Peters, Ph.D., Michigan State, 1969, Professor—historical, environmental perception

Jarl Roine, M.A., Indiana, 1951, Professor—urban, economic, planning

Sten A. Taube, M.A., Georgia, 1963, Associate Professor—meteorology, economic, Latin America

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Key, Jeffrey R. "Shoreline: A Computer Program for the Prediction of Shoreline Changes," 1982.

Kopicki, Edward L. "Scaling Biophysical Information to Planning Needs: A Review," 1983.

Northwestern University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1945

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 1 Ph.D

GRADUATE STUDENTS IN RESIDENCE: 2 Ph.D.
NOT IN RESIDENCE: 1 Ph.D.

CHAIRMAN: John C. Hudson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor Peter A. Rogerson, Department of Geography, Northwestern University, Evanston, Illinois 60201
Telephone (312) 492-7413

PROGRAMS AND RESEARCH FACILITIES: Courses and seminars in the various areas of faculty specialization listed below are augmented with substantial course work in other departments and programs such as economics, industrial engineering, urban systems engineering, management and transportation. Programs of study are worked out individually for each student and permit flexibility within the basic focus of the department.

Current research emphases in the department are in the following areas:

Migration and Mobility—modelling of migration and residential mobility, population forecasting, use of population data for planning and marketing, and historical studies of population mobility.

Spatial Analysis—location and land use analysis, urban systems, spatial diffusion, choice models, spatial statistics.

Urban and Regional Development—regional economics, impart of foreign investment, growth of urban systems, regional labor and housing markets.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The graduate program stresses interdisciplinary study. During the first two years, courses, seminars, and independent study reflecting the interest of both faculty and students are supplemented with courses in cognate departments. Admission to candidacy for the Ph.D. requires presentation of a research paper of publishable quality and passing of an oral examination that stresses the student's field of professional specialization. A dissertation based upon original research, and its successful defense, complete the program. Departmental financial support for the first three years of the program is available to qualified students; the stipend for 1983-84 is $5,700 plus full remission of tuition. All students participate both as teaching and research assistants. Applicants seeking financial support must submit GRE scores.

STAFF:

Michael F. Dacey, Ph.D., Washington, 1960, Professor of Geography and Geological Sciences—mathematical geography, spatial statistics, location theory

Edward B. Espenshade, Jr., Ph.D., Chicago, 1943, Professor Emeritus

John C. Hudson, Ph.D., Iowa, 1967, Professor—settlement, diffusion models, North America

Breandan O'Huallachain, Ph.D., Illinois, 1982, Assistant Professor—methods of urban and regional analysis, transportation, regional economic development

Andrew R. Pickles, Ph.D., Wales, 1982, Assistant Professor—statistical methods, economic, planning

Peter A. Rogerson, Ph.D., SUNY Buffalo, 1981, Assistant Professor of Geography and Civil Engineering—economic, population, quantitative techniques

TITLES OF DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Taylor, Lowry, "A Dynamic Model of Rural-Urban Labor Migration and Job Allocation in Kenya," 1982. Mf., Univ. Microfilms.

The Ohio State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1907 GRADUATE PROGRAM FOUNDED: 1907

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 11 M.A., 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 24 M.A., 17 Ph.D.
NOT IN RESIDENCE: 3 M.A., 10 Ph.D.

CHAIRPERSON: John N. Rayner

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. A. John Arnfield, Chairman, Graduate Committee, Department of Geography, The Ohio State University, 103 Administration Building, 190 North Oval Mall, Columbus, Ohio 43210-1361
Telephone (graduate program) (614) 422-7954, (other matters) (614) 422-2514

PROGRAMS AND RESEARCH FACILITIES: Programs of study stress theoretical and conceptual approaches to geographic problems. Methodologically, the emphasis is largely quantitative. Indeed, in the past, the department has been known primarily for its quantitative and analytical orientation. Although this focus remains strong, there is also a significant degree of activity in other directions, including institutional and historical approaches to geography, studies in a developing world context, political economy, policy studies and alternative geographic paradigms. Research problems undertaken by students may be of a fundamental or applied nature. The overall program is intended to be flexible enough to provide the geographer with an appropriate background to undertake a career in academia, private industry, consulting firms, government or research institutes.

Graduate level programs are offered in cartography, climatology, the geography of development, locational analysis, political geography, quantitative analysis, social-population geography, transportation geography and urban geography. Further details on any of these fields are available on request.

Research is supported by an excellent library system housing some 3.5 million volumes, 1 million microforms, and 145,000 map sheets. Current serial subscriptions number 25,000 series and include virtually all journals of value in geographic research. A computer-based circulation system provides access to catalog data and information on location and availability of materials via public terminals. Computer-based literature searches also are available.

University computer facilities are based on an Amdahl 470V8, a large central processing system which, with an interconnected IBM 4341, supports a large baseload of batch and interactive processing. The system supports advanced software and text editing systems, graphic CRT terminals and plotters. A large digitizing system also is available.

The department supports laboratories for work in cartography and climatology. A large range of meteorological instrumentation is available, including radiometers, humiditiy, temperature and wind profile systems, an infrared thermometer and a variety of analog and digital electronic recording devices. A facsimile machine circuit to the National Weather Service in Washington provides current forecasts, satellite imagery and other products. The departmental numerical cartography laboratory has several state-of-the-art graphic CRT terminals interfaced to the main university computing system as well as hardcopy units, a digitizing tablet, plotter and graphic printer. Conventional cartographic equipment also is available.

Teaching associates are provided with office space and access to services and facilities to support their instructional activities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan.* Quarter System. Research skills are assessed in the Master's program by means of a research paper. Course work includes a core group of seminars emphasizing theoretical understandings and quantitative skills. The Master's comprehensive examination stresses one of the fields of specialization of the department. The doctoral program is designed intentionally to permit advanced graduate students the flexibility to pursue their specialized interests. A seminar on the scope, nature and methodology of the discipline is the only required element. Major and minor fields are examined; the Ph.D. dissertation topic falls within one or both of these fields. Work in related disciplines is encouraged and Ph.D. minor topics in other departments are possible in certain cases. *Admission Requirements.* Minimal grade point average of 2.7 (A = 4.0) or equivalent for foreign applicants. All applicants must take the aptitude portion of the Graduate Record Examination. *Financial Aid.* Teaching associateships are available. The 1981-82 first year stipend (9 month contract) is $4824, plus tuition and fees. Summer teaching is available for qualified students. Additional sources of funding include University Fellowships and research assistantships. Applicants requesting funding are encouraged to complete admission procedures by February 1. Further details on degree requirements, admissions procedures and financial aid are available on request.

STAFF:

A. John Arnfield, Ph.D., McMaster, 1973, Associate Professor—climatology

J. William Bradfield, M.A., Kent State, 1966, Assistant Professor—(OSU Regional Campus, Mansfield, Ohio)

Lawrence A. Brown, Ph.D., Northwestern, 1966, Professor—population, urban, development, Latin America

S. Earl Brown, Ph.D., Wisconsin, 1957, Professor and Dean, Social & Behavioral Sciences—locational analysis, development (Europe)

Emilio Casetti, Ph.D., Northwestern, 1964, Professor—quantitative analysis, population, economic development

Victor Colombini, Ph.D., Boston, 1961, Associate Professor—(OSU Regional Campus, Lima, Ohio)

Kevin R. Cox, Ph.D., Illinois, 1966, Professor—political, social, urban

George J. Demko, Ph.D., Pennsylvania State, 1964, Professor—population, population distribution policy, regional development, socialist systems

Howard L. Gauthier, Ph.D., Northwestern, 1966, Professor—transportation

Vera L. Herman, M.A., Ohio State, 1947, Assistant Professor—physical, world regional

Henry L. Hunker, Ph.D., Ohio State, 1953, Professor—urban, industrial, resource analysis

Robert D. Klingensmith, Ph.D., Southern Illinois, 1975, Assistant Professor—(OSU Regional Campus, Newark, Ohio)

Nina S-N. Lam, Ph.D. Western Ontario, 1980, Assistant Professor—cartography, geographic information systems, locational analysis

Harold Moellering, Ph.D., Michigan, 1973, Associate Professor—numerical and analytical cartography, geographic information systems

Ellen Mosley-Thompson, Ph.D., Ohio State, 1979, Adjunct Assistant Professor—climatology, glaciology

Morton E. O'Kelly, Ph.D., McMaster, 1981, Assistant Professor—locational analysis, quantitative analysis

George P. Patten, Ph.D., Northwestern, 1955, Professor—tropical agriculture, development (Latin America, Africa)

John N. Rayner, Ph.D., Canterbury, 1965, Professor and Chairman—climatology, quantitative analysis

Jeffery C. Rogers, Ph.D., Colorado, 1979, Assistant Professor—climatology

Gregory S. Rose, Ph.D., Michigan State, 1981, Assistant Professor—(OSU Regional Campus, Marion, Ohio)

W. Randy Smith, Ph.D., York, 1978, Assistant Professor—urban, regional urban systems, urban historical

Frank C. Stetzer, Ph.D., Iowa, 1977, Assistant Professor—urban, quantitative

Edward J. Taaffe, Ph.D., Chicago, 1952, Professor—transportation, geographic thought, development (North America)

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:
Ph.D.:

Kodras, Janet Elaine. "The Geographic Perspective in Social Policy Evaluation: A Conceptual Approach with Application to the U.S. Food Stamp Program," 1982. Mf., University Microfilms.

Parolin, Bruno Peter-John. "Physical Barrier Constraints and the Travel-Mode Choice Behavior of the Elderly and Handicapped," 1982. Mf., University Microfilms.

Schneider, Rita M. "Rural Nonfarm Employment and Migration in a Developing Country: The Case of Costa Rica," 1982. Mf., University Microfilms.

Ohio University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1969 GRADUATE PROGRAM FOUNDED: 1971

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 10

GRADUATE STUDENTS IN RESIDENCE: 22
NOT IN RESIDENCE: 4

CHAIR: Nancy R. Bain

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Committee, Department of Geography, Ohio University, Porter Hall, Athens, Ohio 45701
Telephone (614) 594-5555

PROGRAMS AND RESEARCH FACILITIES: The Geography Department grants both the M.A. and M.S. degrees. The student may select one of two programs to obtain either degree: a thesis or a non-thesis track. The thesis track allows for some research specialization, usually requires two years to complete, and is designed for those continuing to the doctoral level. The non-thesis track allows for broad geographic training in several areas of emphasis: cartography, resource management, area studies, economic, cultural, physical, land use planning, and urban. There is a two-part comprehensive exam for this program.

Research facilities include a computing laboratory with CRT links to central IBM 370-44, a complete traditional cartographic production facility as well as computer cartographics capabilities, the Ohio Center for Remote Sensing with an ERDAS microprocessor for LANDSAT imagery, and the Scalia Laboratory for Weather Analysis and Forecasting. In addition, Ohio University offers excellent opportunities for interdisciplinary coursework in international studies and environmental science.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Quarter System. *Admission Requirements:* Bachelor's degree with a minimum grade point average of 2.75 (4.0 scale), Graduate Record Examination. *Financial Aid:* Graduate teaching assistantships of $4175 for nine months plus full tuition scholarship. Appointment includes fee waivers for summer sessions before and after the term of employment. Several tuition scholarships are also available. Financial assistance deadline is March 1.

STAFF:

Nancy R. Bain, Ph.D., Minnesota, 1973, Associate Professor—population, economic, urban

Frank E. Bernard, Ph.D., Wisconsin, 1968, Professor—resources, agriculture, Africa

Hubertus H. L. Bloemer, Ph.D., Union, 1977, Assistant Professor—cartography, remote sensing

James L. Cobban, Ph.D., UC, Berkeley, 1970, Associate Professor—cultural, land use planning, Southeast Asia

Paul A. Gares, Ph.D., Rutgers, 1983, Assistant Professor—coastal geomorphology, resource management

Ronald H. Isaac, Ph.D., Southern Illinois, 1974, Assistant Professor—bioclimatology, quantitative methods, computer mapping

Catherine M. Steiner, Ph.D., Ohio, 1967, Cartographer-Artist, Cartographic Center—history of cartography

Bob J. Walter, Ph.D., Wisconsin, 1968, Professor—political, geographic thought, Africa (on leave 1983-1984)

Hubert G. H. Wilhelm, Ph.D., Louisiana State, 1968, Professor—settlement, historical, Anglo-America

Lynden S. Williams, Ph.D., Kansas, 1973, Professor—population, Latin America, urban

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Bagas, Andrew. "Highway System Planning for Economic Development of Lagging Regions of Developed Nations; the Appalachian Development Highway System in Retrospect," 1983.

Bjorndal, Lee. "Remnants of the Traditional Farmstead on the Landscape: The Case of Lesja, Norway," 1983.

Crump, Jeffrey. "Environmental Attitudes and the Landscape; Sonoma County, California," 1983.

Diliberti, Michael. "A Search for Structure in Surface Arrangement: The Counties of the North-Central Region of the United States," 1982.

Hendricks, Hope. "The Bingham Mining District, Utah: Its Historical and Economic Development, and Projected Future Status," 1983.

Hudson, Martin. "The Journey-to-Work in Relation to the Socio-Economic Characteristics of Employees of Ohio University: A Multiple Regression Approach," 1983.

Kimmerly, David. "The Creation of a Canal Landscape: The Impact of the Hocking Canal on the Settlement of the Hocking River Valley, 1840-1870," 1983.

Medina, Fernando. "The Decentralization of Industrial Employment in Puerto Rico, 1952-1980," 1983.

Oklahoma State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1940 GRADUATE PROGRAM FOUNDED: 1947

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 5 M.S., 1 Ed.D.

GRADUATE STUDENTS IN RESIDENCE: 14 M.S.
NOT IN RESIDENCE: 1 M.S., 1 Ed.D.

HEAD: Richard D. Hecock

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Richard D. Hecock, Department of Geography, Oklahoma State University, Stillwater, Oklahoma 74078
Telephone (405) 624-6250

PROGRAMS AND RESEARCH FACILITIES: Program of study leads to M.S. degree. Department offers plans of study with emphasis in social, historical, or physical geography, as well as resource management and applications of remote sensing. Interdisciplinary options are available in Environmental Sciences and Historic Preservation. Cognate course work is often taken in economics, engineering, biological sciences, architecture, agricultural economics, and statistics. All plans of study for the M.S. require thesis or a report. Field experience required. Credit for internship experience may be earned. The University Cartographic Service and the Center for the Applications of Remote Sensing are affiliated with the Department. The latter is equipped with state-of-the-art computing, plotting, digitizing, and image processing equipment, and offers students an opportunity to learn and practice modern techniques of interpretation and analysis of a wide range of remotely sensed images. The University Library has ample geography and periodical holdings, as well as good map, aerial photography, and documents collections. Students have access to the University's IBM 370/158 computer, its peripheral equipment, and extensive software and graphics packages through remote terminals available within the department.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system, including summer. Undergraduate grade point average of 3.0 (4.0

system) or better normally required for admission. Teaching and research assistantships, planning internships and other stipends range from $4500 to $5000 per 9-month academic year and include a waiver of out-of-state tuition rates. Summer assistantships may also be available. Special minority assistantships and tuition scholarships are available for Oklahoma residents.

STAFF:

W. A. "Tony" Blanchard, M.S., Louisiana State, 1979, Research Associate—Center for Applications of Remote Sensing

David R. Butler, Ph.D., Kansas, 1982, Assistant Professor—Quaternary environments, geomorphology, physical

George O. Carney, Ph.D., (History), Oklahoma State, 1971, Professor—historical, cultural, music, United States

Jerry D. Croft, Ed.D., Tulsa, 1971, Associate Professor—geographic education, Europe

Robert C. Fite, Ph.D., Northwestern, 1951, Professor Emeritus—physical geography, meteorology, climatology

Mark S. Gregory, M.S., Penn State, 1975, Research Associate—Center for Applications of Remote Sensing

Keith D. Harries, Ph.D., UCLA, 1969, Professor—social, urban

Richard D. Hecock, Ph.D., Clark, 1966, Professor and Head—outdoor recreation, resource management, Asia

Herbert Kershaw, M.S., Oregon State, 1960, Professor Emeritus and Visiting Professor—meteorology, climatology, oceanography

George P. Malanson, Ph.D., UCLA, 1983, Visiting Assistant Professor—physical, biogeography, resource management

Gayle Maxwell, M.S., Georgia, 1964, Director, Cartography Service

Razia Nanji, M.Ed., McGill, 1972, Visiting Assistant Professor—Africa

Robert E. Norris, Ph.D., Iowa, 1970, Professor—political, quantitative methods, data processing

John F. Rooney, Jr., Ph.D., Clark, 1966, Professor—sport and recreation, resource management, United States

Stephen J. Stadler, Ph.D., Indiana State, 1979, Assistant Professor—climatology, meteorology, remote sensing, physical

James H. Stine, M.S., Oklahoma State, 1953; Advanced Graduate Work, Washington, Associate Professor—economic and urban systems, location and interaction theory, cartography

Steven W. Tweedie, Ph.D., Syracuse, 1969, Associate Professor—computer techniques, socio-cultural, United States, global education

John D. Vitek, Ph.D., Iowa, 1973, Associate Professor and Assistant Dean, Graduate College—geomorphology, physical

Stephen J. Walsh, Ph.D., Oregon State, 1977, Associate Professor and Director of Center for Applications of Remote Sensing—remote sensing, physical, resource management

R. Todd Zdorkowski, M.A., Oklahoma, 1976, Ph.D. candidate, British Columbia, Visiting Assistant Professor—urban, social, cultural

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ed.D.:

Mansouri, Mehdi. "Spatial Characteristics of Population in Iran: Growth, Distribution, and Density," 1983.* Mf., University Microfilms.

Master's:

Carver, Glenn. "Changing Farm Structure and Size in Oklahoma," 1982.

Constance, Eric. "The Analysis and Mapping of Water Bodies and Drainages Using Landsat Multispectral Digital Data," 1983.

Horacek, Christopher G. "Land-Use Change along the Illinois River: A Geographical Analysis of Oklahoma's River Protection Program," 1983.

Pooler, Michael. "Location-Allocation Model Effectiveness in Public Facilities Location," 1983.

Williams, Margaret. "Comparison of Methods to Estimate Evapotranspiration," 1983.

University of Oklahoma

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: (Ph.D.) 1965

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 1 M.A., 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 11 M.A., 13 Ph.D.
NOT IN RESIDENCE: 3 M.A., 6 Ph.D.

CHAIR: Neil Salisbury

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Admissions Committee, Department of Geography, University of Oklahoma, Norman, Oklahoma 73019
Telephone (405) 325-5325

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers opportunities leading to the M.A. and Ph.D. degrees with programs tailored to fit the interests and needs of each student. Although the department specializes in several traditional areas of the discipline, we encourage students to develop new and innovative approaches to geographic research and career development. On-going programs of research in both basic and applied areas provide students with the opportunity to obtain first-hand experience in geographic problem-solving. Among the areas of research concentration are: environmental assessment, climatic change and its impacts, geographic information systems, spatial organization and spatial modeling, natural resources, historical geography, and fluvial geomorphology.

Students have a chance to relate to a variety of strong University programs: courses and faculty in other departments (frequently with regional and city planning, law, history, geology, economics, sociology, anthropology, marketing, botany, and civil engineering), interdisciplinary programs (such as the Science and Public Policy Program and the Southwest Center for Human Relations Studies), and research offices (such as the Bureau of Government Research, the Bureau for Business and Economic Research, the Bureau of Water and Environmental Resources Research, the Oklahoma Geological Survey, the Oklahoma Climatological Survey, and the Oklahoma Biological Survey). Close connections are maintained with the Department of Geography at Oklahoma State University, which offers complementary activities and opportunities.

The Department is housed in the new Social Sciences Center. Its facilities include a full-service remote computing terminal in the building, linked to the university IBM 370–158 computer; two TSO lines; Tektronix 4010 and 4631; two 30-inch Calcomp plotters; a digitizer; a darkroom and cartographic production facilities, including a Brown 400 copy camera; and collections of maps, air photos, and other imagery.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates with two semesters and one eight-week summer session. Admission decisions are based on an evaluation of transcripts, letters of recommendation, GRE aptitude scores, and any other material that an applicant wishes to be considered. Graduate assistantships and other kinds of financial aid are available each year.

STAFF:

Marvin W. Baker, Jr., Ph.D., Syracuse, 1970, Associate Professor—urban, environmental policy, Latin America, Anglo-America

Charles E. Barb, Jr., Ph.D., Washington, 1974, Associate Professor of Civil Engineering and Geography—urban information systems, geocoding, computer graphics, urban transportation

L. Dee Fink, Ph.D., Chicago, 1976, Adjunct Assistant Professor of Geography and Instructional Consultant, University College—geographic education

James M. Goodman, Ph.D., Northwestern, 1963, Associate Professor—physical environments, geomorphology, Native American resources and land use in the American Southwest

John M. Harlin, Ph.D., Iowa, 1975, Assistant Professor—quantitative methods, climate, geomorphology

John A. Harrington, Jr., Ph.D., Michigan State University, 1980, Assistant Professor—biogeography, climatology, remote sensing

Richard L. Nostrand, Ph.D., UCLA, 1968, Professor—historical, social and cultural geography of Spanish/Mexican Americans, the American Southwest

Rebecca S. Roberts, Ph.D., Oregon State, 1982, Assistant Professor—natural resources, economic

Neil E. Salisbury, Ph.D., Minnesota, 1957, Professor—natural resources and resource use patterns, fluvial morphology and landscape systems

Fred M. Shelley, Ph.D., Iowa, 1981, Assistant Professor—political, locational conflict analysis

Hans-Joachim Spaeth, Ph.D., Freiburg (Germany), 1973, Professor—natural resources, geomorphology, semi-arid regions

Stephen M. Sutherland, Ph.D., Illinois, 1963, Associate Professor—climatic change, weather modification, physical

Gary L. Thompson, Ph.D., Michigan State, 1968, Associate Professor—economic, transportation, regional analysis, Soviet Union

Bret Wallach, Ph.D., UC, Berkeley, 1968, Associate Professor—cultural, historical, resources

EMERITUS STAFF:

Harry E. Hoy
Ralph E. Olson

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Bienman, Paul M. "Dunes on the Navajo Uplands of Northeastern Arizona: Their Relationship to Selected Environmental Variables," 1982.* Mf., University Microfilms.

Caldwell, John M. "The Methodist Organization of the United States, 1784-1844: An Historical Geography of the Methodist Episcopal Church from Its Formation to its Division," 1982.* Mf., University Microfilms.

Radi, Mahmoud Diab. "The Downstream Channel Form Change of Streams on Different Geologic Settings," 1982.* Mf., University Microfilms.

Master's:

Taib, Saeid S. "Tourism and Development: The Libyan Potential," 1983.*

Oregon State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1946 GRADUATE PROGRAM FOUNDED: 1952

DEGREES OFFERED: M.S., M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 12 Masters, 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 34 Masters, 9 Ph.D.
NOT IN RESIDENCE: 9 Masters, 3 Ph.D.

CHAIRMAN: Thomas J. Maresh

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Thomas J. Maresh, Department of Geography, Oregon State University, Corvallis, Oregon 97331
Telephone (503) 754-3141

PROGRAMS AND RESEARCH FACILITIES: The Department specializes in the fields of resource geography, environmental geography, physical geography, and applied economic geography. The typical graduate program contains a core major, research methodology, and a related minor. One language is required for the Ph.D. Minors may be partly or wholly in a second field of geography or may be integrated from the wide range of relevant disciplines and fields represented on this land grant university campus. Master's degree candidates may elect either a thesis or a non-thesis option.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Admission requirements:* 3.00 GPA in last two undergraduate years and three letters of recommendation. Quarter system. *Financial aid:* Teaching and research assistantships.

STAFF:

Robert E. Frenkel, Ph.D., UC, Berkeley—biogeography, conservation
Oliver H. Heintzelman, Ph.D., Washington, Professor Emeritus—recreation resources
Richard M. Highsmith, Jr., Ph.D., Washington, Professor Emeritus—agricultural, land resources use
Philip L. Jackson, Ph.D., Kansas—climate, agricultural land use
J. Granville Jensen, Ph.D., Clark, Professor Emeritus—biotic resources, resource geography of Mexico
Steven R. Kale, Ph.D., Nebraska—applied economic geography, area and community development, energy
A. Jon Kimerling, Ph.D., Wisconsin—cartography, remote sensing
Thomas J. Maresh, Ph.D., Illinois—economic, industrial, mineral
Gordon E. Matzke, Ph.D., Syracuse—biotic resources, zoogeography, conservation
Keith W. Muckleston, Ph.D., Washington—water resources
Mary Lee Nolan, Ph.D., Texas A&M—responses to hazards, recreation
Ray M. Northam, Ph.D., Northwestern—urban, transportation
James R. Pease, Ph.D., Massachusetts—land use planning, resource planning
Charles L. Rosenfeld, Ph.D., Pittsburgh—applied physical geography, hydrology, geomorphology

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

Brainerd, Richmond. "An Analysis of the Impact of Floodplain Regulations on Residential Land Values: The Oak Grove, Oregon, Case Study," 1983.

Bromley, Marianne. "Management Implications of Petroleum Exploration and Development in the Wilderness Environments—Minimizing Wildlife Impacts," 1983.

DeTar, John G. "An Evaluation of Minimum Lot Area Parcels in Clackamas and Yamhill County Farm Use Zones," 1983.

Gilbert, Kirby. "Resource Conflicts and Expansion Opportunities of Ski Areas in Oregon and Washington," 1983.

Heinitz, Eric F. "Vegetation Ecology of *Fraxinus Latifolia* Communities in William L. Finley National Wildlife Refuge, Oregon," 1983.

Johnson, Colleen. "Soil Mounds and Patterned Ground of the Lawrence Memorial Grasslands Preserve," 1983.

Kuhlken, Robert. "Selected Factors Affecting Rangeland Use on the Warm Springs Indian Reservation," 1983.

McDonough, Mary. "A Study of Nonfarm Dwellings in an Exclusive Farm Use Zone," 1983.

Orr, Taylor. "The Feasibility of Implementing a Campfire Closure in a Heavily Used Portion of Eagle Cap Wilderness," 1983.

Peterson, Stacia. "Grazing Impacts on Bacterial Water Quality, Alsea Ranger District," 1983.

Sholin, Michael H. "Landslide Hazards in the Dalles, Wasco County, Oregon," 1983.

Wickramaratne, Nimal. "Vegetation Changes in the Willamette River Greenway, Benton and Linn Counties, Oregon, 1972-81," 1983.

University of Oregon

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1920's GRADUATE PROGRAM FOUNDED: 1923

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 5 M.A., 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 17 M.A. 4 Ph.D.
NOT IN RESIDENCE: 10 M.A. 10 Ph.D.

HEAD: William G. Loy

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Administrative Assistant, Department of Geography, University of Oregon, Eugene, Oregon 97403 Telephone (503) 686-4555

PROGRAMS AND RESEARCH FACILITIES: Staff interests in advanced graduate training include physical, cultural, historical, and urban geography, Latin America, Europe, and North America. Strong emphasis is placed on field research.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Oregon is on the quarter system. The Department selects for admission on the basis of letters of recommendation, grade point average, and scores on the Graduate Record Examination. Graduate teaching fellowships are available ($4,464 to $5,329 for 1/3 time).

STAFF:

Patrick J. Bartlein, Ph.D., Wisconsin-Madison, 1978, Assistant Professor—climatology, quantitative methods, water resources

Samuel N. Dicken, Ph.D., UC, Berkeley, 1931, Professor Emeritus—North America, Oregon, coastal geomorphology

Carl L. Johannessen, Ph.D., UC, Berkeley, 1959, Professor—plant geography, Latin America

William G. Loy, Ph.D., Minnesota, 1967, Professor—cartography, photo interpretation, place-name studies

Patricia F. McDowell, Ph.D., Wisconsin-Madison, 1978, Assistant Professor—geomorphology, Quaternary environments, soils, environmental management

Clyde P. Patton, Ph.D., UC, Berkeley, 1953, Professor—cultural, climatology, Europe

Edward T. Price, Ph.D., UC, Berkeley, 1950, Professor Emeritus—cultural, historical, North America

Gary H. Searl, M.S., Oregon, 1966, Adjunct Assistant Professor—geographic education, Oregon

Everett G. Smith, Jr., Ph.D., Minnesota, 1962, Professor—urban, social, North America

Alvin W. Urquhart, Ph.D., UC, Berkeley, 1962, Professor—cultural, Africa

Ronald Wixman, Ph.D., Chicago, 1978, Assistant Professor—U.S.S.R., East Europe, cultural

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

King, Larry. "Skid Rows: A Geographical Perspective," 1982.

Marentette, David. "An Historical Geography of Bath, Maine: 1600 to 1920," 1983.

Spyrou, Michael. "Housing the Homeless in Greece: The Impact of the Settlement of Asia Minor Refugees on the Urban Development of Salonika, 1920-1972," 1983.

Master's:

Granados, Carlos. "Gold Mining and Town Development in Costa Rica," 1983.

Lew, Alan. "Thematic Revitalization of Older Retail Districts in the Pacific Northwest," 1983.

Organ, Eugene. "An Analysis of Auditory Landscapes: Spatial Distribution of Sound," 1982.

Richard, Debra. "The Preservation of Cultural Resources in Oregon National Register Historic Districts," 1982.

Stern, Herschel. "Diffusion and Communication: Household Solar Technology in Oregon," 1983.

The Pennsylvania State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 7 M.S., 4 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 25 Masters 16 Ph.D.
NOT IN RESIDENCE: 9 Masters 9 Ph.D.

HEAD: C. Gregory Knight

FOR CATALOG AND FURTHER INFORMATION WRITE TO: C. Gregory Knight, Head, Department of Geography, 302 Walker Building, University Park, Pennsylvania 16802
Telephone (814) 865-3433

PROGRAMS AND RESEARCH FACILITIES: Individual graduate programs are built around several research interests:

American Landscape: Visual properties of the American environment; origin and character of differences in landscape from place to place; symbolism of natural and artificial landscapes in American culture, past, present, and future.

Behavioral Geography: Environmental cognition; cognitive mapping; place preferences of inter-regional migrants; residential site selection and intra-urban migration; micro-spatial behavior of individuals and groups.

Communications Systems: Geographical organization and social impacts of postal, telephonic, and cable television networks; national and international information flows; effects of communications media on culture.

Cultural Geography of Anglo-America: Spatial patterns in American life, material and non-material, past and present; problems in general cultural theory with special reference to northeastern United States.

Cultural Geography of Southeast Asia: Population problems; mobility and migration; economic development; transportation; urbanization.

Geographic Analysis: Cartography; computer modeling, graphics, and data display; structure and properties of geographic data systems; use of normative models in research design; statistical methods and applications; simulation; structural analysis, qualitative mathematics in the human sciences.

Geography of the Developing World: Problems of regional development in Africa, Latin America, South and Southeast Asia, southern Europe; radical theories of economic development; agricultural development.

Geographic Theory: Structure of geographic inquiry; nature of the science of geography; geographic thought within the history of science; systems theory and location theory; phenomenological bases of geographical inquiry.

Human Geography of the U.S.S.R.: Demographic and economic development in the Soviet Union (with the Soviet Language and Area Center).

Human Use of Environment: Structure and dynamics of man-environment systems; cultural ecology; resource assessment and management; energy systems.

Industrial Location and Regional Economic Development: Industrial location theory; spatial analysis of manufacturing systems; industrial development; regional income inequalities; planning for optimal socio-economic growth.

Macro-spatial Analysis in Regional and Urban Development: Public policy and facility location; regional economic analysis; metropolitan spatial structure; transportation and modernization processes; space-distorting properties of modern communications systems; spatial diffusion; regional and urban planning.

Population Problems: Evolution of present spatial patterns of population growth and characteristics; population problems in developing societies; population distribution and redistribution, emphasis on United States.

Remote Sensing and Digital Terrain Modeling: Photographic and digital processing of aerial and satellite imagery; analysis and applications of numerical landform models. The Department cooperates with the Office for Remote Sensing of Earth Resources.

The Department has no specific course requirements. Programs of study are arranged with advisors and committees to suit individual needs and professional aims. A thesis or two research papers are required for the M.S. degree.

The Department occupies excellent facilities on a beautiful campus. Available facilities include several computer systems: IBM 3081 and 4341, E&S Picture System, APPLEs, etc. The George F. Deasy Laboratory of GeoGraphics supports work in cartography, remote sensing, and computer modeling.

The Department participates in interdisciplinary graduate programs in Ecology, Environmental Pollution Control, Operations Research, and the Humanities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University follows the 15-week semester system. Applicants must have maintained junior/senior overall grade point averages equivalent to 3.0 (A = 4.0) for admission. GRE scores are required. The Geography Department offers teaching and research assistantships each year. Half-time appointments carry a stipend of $4824 for two semesters plus a grant-in-aid to cover all tuition. Other awards include: grants-in-aid; University Fellowships; Faculty Aide positons.

STAFF:

Ronald F. Abler, Ph.D., Minnesota, 1968, Professor—history of geography, geography of communications systems, urban, cartography

Roger M. Downs, Ph.D., Bristol, 1970, Professor—behavioral, environmental cognition

Rodney A. Erickson, Ph.D., Washington, 1973, Associate Professor; Associate Professor of Business Administration; Director of the Pennsylvania Economic Analysis Program—economic, urban, regional economic development

J. Ronald Eyton, Ph.D., Illinois, 1974, Associate Professor—remote sensing, computer cartography, spatial/numerical methods

Peter R. Gould, Ph.D., Northwestern, 1960, Professor—methodology, human

C. Gregory Knight, Ph.D., Minnesota, 1970, Professor—environmental systems, cultural ecology, Africa

Peirce F. Lewis, Ph.D., Michigan, 1958, Professor—American landscapes

E. Willard Miller, Ph.D., Ohio State, 1942, Professor Emeritus—minerals, geography of manufacturing

Allan Rodgers, Ph.D., Wisconsin, 1950, Professor—industrial location, economic geography of the U.S.S.R. and Italy, regional economic development

Paul D. Simkins, Ph.D., Wisconsin, 1961, Professor—population, migration, Latin America

Frederick L. Wernstedt, Ph.D., UCLA, 1953, Professor—Southeast Asia, tropical, climatology

Anthony V. Williams, Ph.D., Michigan State, 1968, Associate Professor and Chairman, University Operations Research Program—political, computer applications, quantitative techniques, geographic information systems

Lakshman Yapa, Ph.D. Syracuse, 1969, Associate Professor—economic development, third world, political economy, spatial diffusion, quantitative methods, South Asia

Wilbur Zelinsky, Ph.D., UC, Berkeley, 1953, Professor—cultural, historical, population, North America

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Kunze, Donald. "Thought and Place: The Imagination and Memory of Eternal Places in the Philosophy of Giambattista Vico," 1983.* Mf., University Microfilms.

Marsh, David. "A Cartography of Popular Maps," 1983.* Mf., University Microfilms.

Pickles, John. "Phenomenology, Science, and Geography. Towards a Hermeneutic Ontology of Spatiality for the Human Sciences," 1983.* Mf., University Microfilms.

Sugiura, Noriyuki. "Rhetoric and Geographers' Worlds: The Case of Spatial Analysis in Human Geography," 1983.* University Microfilms.

Master's:

Bacastow, Todd. "Detecting Temporal Change of the Groundwater Surface in the Hershey Valley, Pennsylvania," 1983.

Harvey, Thomas. "The Making of Railroad Towns in Minnesota's Red River Valley," 1982.

Makihara, Jeanne. "The Effects of Coal Dust on Surface Albedo and Thaw Depth in Northern Alaska," 1982.

Morey, Mark. "The Use of Coal by the Electric Utility Industry, 1960-2000: A Geographic Perspective," 1983.

Mudamburi, Abby Sue Edelman. "Basic Needs and the Export Economy with a Case Study of Sri Lanka," 1982.

Shaw, Paul. "A Preliminary Site-Screening Method for Deep-Surface Mining of Anthracite Coal," 1982.

Staeheli, Lynn. "Why Families Stay: The Forgotten Question in Residential Mobility," 1983.

University of Pennsylvania

REGIONAL SCIENCE DEPARTMENT

DATE FOUNDED: 1958 PH.D. PROGRAM FOUNDED: 1958 (GRADUATE FACULTY OF ARTS AND SCIENCES)

DEGREES OFFERED: A.M., Ph.D.

GRANTED 7/1/82-6/30/83: 7 M.A., 5 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 42
NOT IN RESIDENCE: 28

CHAIRMAN: Ronald E. Miller
GRADUATE GROUP CHAIRMAN: Daniel E. Vining, Jr.

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Admission Chairman, Regional Science Department, University of Pennsylvania, 3718 Locust Walk, 130 McNeil/CR, Philadelphia, Pennsylvania 19104
Telephone: (215) 898-8412

PROGRAMS AND RESEARCH FACILITIES: Regional Science is an interdisciplinary social science department concerned with the locational behavior of individuals and groups, institutions and governments. In addition to studying the spatial distribution and redistribution of specific activities and actors (e.g., firms, households), the field is also concerned with structure and development of national and regional social and economic systems. In practice, the orientation of the field has also led to very close relationships among theoretical research, planning, and policy in both the public and private sectors.

Study in the Department of Regional Science has historically led to a variety of job opportunities both in the United States and abroad. These have included teaching and research at universities (in departments of economics, geography, environmental science, city and regional planning, and public policy); research positions in public and private agencies; and specialists working with planning commissions, resource and area development agencies, and in firms which are engaged in marketing, land development, transportation, and industrial location.

The Degree of Master of Arts (A.M.)—The master's degree provides the student with basic theory and analytical tools for research. The degree prepares graduates for entry into middle level professional positions.

Programs are available leading to joint master's degrees in regional science and city planning (A.M./M.C.P.), in regional science and public policy (A.M./M.A.P.P.), and in regional science and regional planning (A.M./M.R.P.). Joint programs generally require from two to three years of study.

The Degree of Doctor of Philosophy (Ph.D.)—The Ph.D. program provides highly individualized training in theory, methods, and research in regional science. The degree prepares candidates for university research and teaching, as well as for advanced work in a number of fields.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:

Admissions—Applications are welcome from students, professionals, and scholars in a wide range of fields. Students are required to take the Aptitude Test of the Graduate Record Examination (GRE) and to have proficiency in English. Applicants whose active language is English ordinarily submit results of the Test of English as a Foreign Language (TOEFL). Information on the GRE and TOEFL is available from the Educational Testing Service, Princeton, New Jersey, and Berkeley, California, or from the United States Information Service located in offices of a United States Council General abroad.

Some applicants may need additional mathematical preparation for entrance into courses. Many courses, for example, require some knowledge of calculus. Arrangements can be made to provide such preparation when the candidate is otherwise well prepared for graduate work.

Financial Aid—The University offers a limited number of fellowships to Ph.D. students. Applications for financial aid for the 1983–84 academic year must be filed by March 1, 1983.

The number of grants offered through the University for first-year students is necessarily limited and the competition is keen. Prospective students who need assistance should therefore apply to other sources as well (e.g., foundations, government).

FACULTY:

W. Bruce Allen, Ph.D., Northwestern, 1969, Professor of Public Management, Regional Science and Transportation—microeconomic analysis of location and transportation

James Bennett, Ph.D., MIT, 1978, Assistant Professor of Regional Science and Conflict Analysis and Peace Research—modeling structural change, regional political and economic development

Peter D. Blair, Ph.D., Pennsylvania, 1976, Assistant Professor of Regional Science—energy system modeling and simulation, energy policy analysis

Robert C. Douglas, Ph.D., Pennsylvania, 1978, Adjunct Assistant Professor—American economic history, regional and urban development, spatial market systems analysis

Thomas Fogarty, Ph.D., Pennsylvania, 1978, Assistant Professor of Regional Science and Conflict Analysis and Peace Research—regional political economy, social choice, location and policy games

Masahisa Fujita, Ph.D., Pennsylvania, 1972, Associate Professor of Regional Science—location theory, regional and urban growth and planning

Stephen Gale, Ph.D., Michigan, 1969, Associate Professor of Regional Science, Conflict Analysis and Peace Research, City and Regional Planning, and Public Policy Analysis—urban information systems, locational decision-making, philosophy of social sciences

Aaron Gellman, Ph.D., MIT, 1957, Adjunct Professor of Regional Science—transport management and the process of innovation

Ralph Ginsberg, Ph.D., Columbia, 1966, Professor of Regional Science—spatial demography, stochastic models, statistical analysis, and organization theory

Norman J. Glickman, Ph.D., Pennsylvania, 1969, Professor of Regional Science—economic analysis of spatial problems, urban economics, impact analysis

Walter Isard, Ph.D., Harvard, 1943, Adjunct Professor of Regional Science—methods of regional analysis, location theory, conflict management, policy space analysis, multiregional models

Janice F. Madden, Ph.D., Duke, 1972, Associate Professor of Regional Science and Undergraduate Chairman—spatial labor economics and demography

Ronald E. Miller, Ph.D., Princeton, 1961, Professor of Regional Science and Chairman—input-output analysis, applications of calculus of variations and maximum principle techniques

Elizabeth M. Petras, Ph.D., SUNY, Binghamton, 1981, Assistant Professor of Regional Science—political economy, urban and rural sociology, community development, migration, immigration

Thomas A. Reiner, Ph.D., Pennsylvania, 1963, Professor of Regional Science and City and Regional Planning—regional planning and urbanization in developing nations, normative modeling, planning theory

Tony E. Smith, Ph.D., Pennsylvania, 1969, Professor of Regional Science—theoretical foundations of spatial interaction behavior

Daniel R. Vining, Ph.D., Carnegie-Mellon, 1975, Associate Professor of Regional Science and Chairman of the Graduate Group—applied statistics, ecological models of urban change, migration

Philip A. Viton, Ph.D., UC, Berkeley, 1977, Assistant Professor of Regional Science and Transportation—economics of urban transportation, regulation and environmental issues

Alan Wilson, M.A., Cambridge, 1964, Adjunct Professor of Regional Science—spatial modeling

James Zucchetto, Ph.D., Florida, 1975, Assistant Professor of Regional Science—ecological modeling and theory, regional energy analysis, energy-economic relationships, environmental impact and evaluation

TITLES OF DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Baron, Mira. "Theoretical Aspects of Neighborhood Contagion in Housing Rehabilitation," 1982.

Fujita, Natsuki. "Inter-Industrial Linkage Indices," 1982.

McConney, Mary. "An Empirical Investigation of the Repair Behavior of Neighboring Homeowners," 1983.

Mehta, Dinesh. "Behavioral Aspects of Rural-Urban Migration: An Empirical Analysis of the Ahmedabad Region, India," 1982.

Uno, Kimiko. "Multiple Labor Input Considerations in the Estimation of Regional Translog Production and Cost Functions," 1982.

Portland State University

GEOGRAPHY DEPARTMENT

DATE FOUNDED: 1959 GRADUATE PROGRAM FOUNDED: 1969

DEGREES OFFERED: M.A., M.S.

GRANTED 7/1/82-6/30/83: 0

GRADUATE STUDENTS IN RESIDENCE: 18
NOT IN RESIDENCE: 7

HEAD: D. Richard Lycan

FOR FURTHER INFORMATION WRITE TO: Geography Department, Portland State University, P.O. Box 751, Portland, Oregon 97207
Telephone (503) 229-3916

PROGRAMS AND RESEARCH FACILITIES: The Geography Department at Portland State University benefits from its location in the midst of a scenic and varied physical environment, situated in the lower Willamette Valley, only 60 miles from the Pacific Ocean to the west and the Cascade Range to the east. The opportunities for studies in physical geography and resources with a strong field component are excellent and are emphasized in the graduate program. This emphasis is complemented by the urban location of the 15,000-student campus on a 20-block area surrounding the South Park blocks at the edge of downtown Portland. Numerous local, state, and federal agencies are located within brief walking or driving distance and the department maintains close contact with many of them, providing opportunities for applied research in a wide variety of areas. Four cluster areas are especially well developed in the graduate program:

Physical Geography—geomorphology, hydrology, climatology, biogeography, periglacial and mountain environments;

Environmental Analysis—resource management, environmental assessment, conservation;

Spatial Analysis and Data Display—computer graphics, geographic information systems, cartography, remote sensing;

Urban Geography—urban structure, regional analysis.

Facilities within the department include a computer graphics laboratory managed by the Geography Department, housing Tektronix and Commodore computer systems, a well-equipped cartographic teaching facility, a cartographic production laboratory, a flat map collection, and an expanding remote sensing laboratory. Connection with the university's Honeywell 66/40 computer is available through remote terminals in the department. The University Library houses a map and atlas collection in addition to its more than 600,000 volumes.

The department cooperates with interdisciplinary graduate programs, especially the doctoral programs in Urban Affairs and Environmental Science. The Urban Studies doctoral program offers graduate courses in regional science and geographical information systems. Joint offerings with the Master's of Public Administration provide opportunities for graduate courses in natural resource policy. Research opportunities are available through the Centers for Urban Studies, Population Research, Aging, and Transportation.

Graduate students are provided with office space and facilities for both research and interaction with faculty and other students. Research opportunities for graduate students are varied. PSU's urban location provides many opportunities for internships with numerous federal, state, and local agencies in Portland. Students may be involved in faculty research projects. Ready access to the Pacific coast, the Cascades, and the majestic Columbia Gorge provides a diversity of environments. The department's summer field camp, with focus on high mountains, attracts students from universities across the country. The student organization FOG (Friends of Geography) provides a colloquium series and field excursions.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: PSU follows the quarter system. Incoming students may enter at the beginning of any term, though a fall term entrance is encouraged. For admission to graduate study a student normally should have completed the minimum preparation for an undergraduate major in geography with a 3.0 average in all upper-division work. Scores on both the verbal and quantitative portions of the GRE are suggested. Students with majors in other fields are encouraged to apply if they can demonstrate the ability to pursue graduate work in geography. Students seeking the M.A. degree must demonstrate their competence in the use of a foreign language for geographic research; those preparing for an M.S. degree must show proficiency in advanced techniques in geography. Students in the M.A. program must complete a thesis. Those in the M.S. program may choose between thesis and non-thesis (research paper) options. The availability of assistantships and scholarships is limited and early application is encouraged.

STAFF:

James G. Ashbaugh, Ph.D., UCLA, 1965, Professor—urban, North America, Pacific Northwest

Clarke H. Brooke, Jr., Ph.D., Nebraska, 1956, Professor—human, conservation of plant and animal genetic resources, Middle East

Dale E. Courtney, Ph.D., Washington, 1959, Professor—historical, Latin America

John O. Dart, Ph.D., Washington, 1953, Professor—geomorphology, conservation

Alexander R. Gassaway, Ph.D., Clark, 1971, Professor—economic, population/food supply, Europe

Daniel M. Johnson, Ph.D., Arizona State, 1977, Associate Professor—climatology, hydrology, resource management

Fritz L. Kramer, Ph.D., UC, Berkeley, 1957, Professor—cartography, historical, cultural

Gil Latz, Ph.D. candidate, Chicago, Instructor—East Asia, Japan, resource management

D. R. Lycan, Ph.D., Washington, 1964, Professor—demography, cartography, quantitative methods

Joseph Poracsky, Ph.D. candidate, Kansas, Instructor—cartography, remote sensing, geographic information systems

Thomas M. Poulsen, Ph.D., Wisconsin, 1963, Professor—U.S.S.R., Eastern Europe, world affairs (on leave 1983-1984)

Larry W. Price, Ph.D., Illinois, 1970, Professor—geomorphology, biogeography, periglacial environments, mountains

AFFILIATED FACULTY:

John R. Churchill, M.P.A., Harvard, 1951, Adjunct Professor of Public Administration—water, energy, land resource policy

Kenneth J. Dueker, Ph.D., Washington, 1967, Professor of Urban Studies—geographic information systems, urban transportation

John Pyrch, M.S., Portland State, 1973, Adjunct Assistant Professor, Environmental Specialist, Bonneville Power Administration—environmental impact assessment

William A. Rabiega, Ph.D., Southern Illinois, 1973, Associate Professor of Urban Studies—regional analysis, urban transportation

James G. Strathman, Ph.D., Iowa, 1981, Research Associate, Urban Studies Center—location theory, regional development

Rutgers University

GRADUATE PROGRAM IN GEOGRAPHY

DATE FOUNDED: 1956

DEGREES OFFERED: M.A., M.S., M.Phil., Ph.D.

GRANTED 7/1/82-6/30/83: 5 Masters, 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 22 Masters 20 Ph.D.
NOT IN RESIDENCE: 8 Masters 7 Ph.D.

DIRECTOR: James K. Mitchell

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director, Graduate Program in Geography, Department of Geography, School of Urban and Regional Policy, Rutgers University, New Brunswick, New Jersey 08903
Telephone (201) 932-4107

PROGRAMS AND RESEARCH FACILITIES: The Rutgers program is characterized by varied course offerings, rich faculty resources, strong interdisciplinary ties, access to unrivalled research opportunities and facilities, and firm links with policy management agencies in state and federal governments. It is also the largest and most comprehensive geography graduate program in the New York and Philadelphia metropolitan regions.

Faculty currently work in such areas as urban water resource management, remote sensing, hazards research, environmental planning and decision making, coastal geomorphology and coastal zone management, regional development, human ecology, population migration, cartography, perception of urban environments, processes of urbanization, medical, behavioral, historical, cultural, and social geography. Faculty and students contribute to the *Rutgers Geography Discussion Papers* series. Several titles are published each year.

Students can pursue courses of study based on a flexible combination of required and elective courses. The Department of Geography is a unit of the School of Urban and Regional Policy. Close ties are maintained with the Center for Coastal and Environmental Studies, Center for Urban Policy Research, Agricultural Experiment Station, and a variety of interdisciplinary departments and programs throughout the University.

Rutgers is convenient to several of the country's largest research libraries and to a vast range of research and funding institutions and public agencies. Batch processing and timesharing are provided through an IBM 360/6 computer. The department possesses a modern, well-equipped cartography laboratory that includes computer cartography facilities, and students can obtain training in the use of microcomputers for research.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Teaching assistantships with full remission of tuition are available. The stipend is approximately $6500. Similar compensation is provided by several research assistantships. University fellowships and tuition scholarships are also available.

STAFF AND ASSOCIATES:

Teuvo M. Airola, Ph.D., Duke, 1976, Associate Professor—environmental resources

Baruch Boxer, Ph.D., Chicago, 1961, Professor—international environmental issues, China

John E. Brush, Ph.D., Wisconsin, 1952, Professor—population and settlement, South Asia

George W. Carey, Ed.D., Columbia, 1964, Professor—urban, social ecology

Susan Caris Cutter, Ph.D., Chicago, 1976, Associate Professor—environmental management, community attitudes toward pollution

Michael R. Greenberg, Ph.D., Columbia, 1969, Professor—regional economic development, quantitative methods, environmental management

Briavel Holcomb, Ph.D., Colorado, 1972, Associate Professor—urban, social, perception

Robert M. Hordon, Ph.D., Columbia, 1970, Associate Professor—fluvial geomorphology and hydrology

Robert W. Lake, Ph.D., Chicago, 1981, Associate Research Professor—urban and social

James K.Mitchell, Ph.D., Chicago, 1973, Professor—resource management, coastal and marine geography, human response to hazard

George H. Nieswand, Ph.D., Rutgers, 1970, Professor—environmental management and planning, systems analysis

Karl F. Nordstrom, Ph.D., Rutgers, 1975, Associate Professor—beach process analysis, coastal land use and shoreline development

Norbert P. Psuty, Ph.D., Louisiana State, 1966, Professor—physical, coastal landforms, remote sensing

Joanna Regulska, Ph.D., Colorado, 1982, Assistant Professor—urban, economic, statistical methods

William H. Renwick, Ph.D., Clark, 1979, Assistant Professor—fluvial geomorphology, environmental geomorphology, applied climatology

Robert W. Roundy, Ph.D., UCLA, 1976, Assistant Professor—medical geography, environment and development in the Third World, human ecology

Andrew P. Vayda, Ph.D., Columbia, 1956, Professor—human ecology, economic development and environmental problems

Peter O. Wacker, Ph.D., Louisiana State, 1966, Professor—historical, cultural, Anglo-America

Grant F. Walton, Ph.D., Rutgers, 1973, Professor—pedology, natural resource planning

*Two additional positions to be filled by fall, 1983.

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Reynolds, William Jerome. "Beach Dynamics and the Societal Response to Beach Erosion at Marco Island, Florida," 1982.

Waterstone, Marvin. "Toxic Materials and Groundwater Contamination in Southern New Jersey: The Concept of Net Risk Analysis," 1983.

Weil, Richard Harry. "The Distribution of Police Services in North and South Dakota," 1983.

Master's:

Kachagian, Gregory. "The Effects of Tidal Fluctuation and River Discharge on the Stage of the Raritan River in New Brunswick, New Jersey," 1982.

Mason, Antony B. "Conflict-Reducing Potential of the Delphi Method in Environmental Disputes," 1983.

Schneider, Dona. "The Spatial Distribution of Planned Out-of-Hospital Births in New Jersey," 1983.

Smith, Daniel R. "The Spatial Dynamics of the Black Communities of Manhattan Island, 1626-1776," 1981.

San Diego State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1914 GRADUATE PROGRAM FOUNDED: 1956

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 42
NOT IN RESIDENCE: 5

CHAIRMAN: Ernst C. Griffin

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Bob R. O'Brien, Graduate Advisor, Department of Geography, San Diego State University, San Diego, California 92182
Telephone (619) 265-5437

PROGRAMS AND RESEARCH FACILITIES: A flexible curriculum complemented by careful advising permits the department to design a program tailored to the professional goals of each M.A. candidate. Students also benefit from a long tradition of close faculty-student contact.

A wide variety of teaching specialties is represented in the department but the main strengths are in the following subdivisions of the field: (a) conservation and environmental studies; (b) urban and transportation geography; (c) cartography and remote sensing; (d) geomorphology; (e) Latin America. Graduate students are urged to study in one or more of the above concentrations. Applied programs are available leading to positions in categories (a), (b) and (c) above.

The department has excellent physical facilities. In addition to well-equipped classrooms, the department has a cartographic laboratory, field and photogrammetric equipment, graduate assistant offices, a class "A" weather station, and a reading room. An excellent map collection of approximately 100,000 sheets is located in the main library. Geography cooperates in a Social Science Research Center, with 20 interactive terminals to on and off campus computers including a VAX, a PDPII, and a CDC 3300; the Center also has an RJE for batch input to an IBM 360/50 and a CYBER 750/175.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Two Master of Arts degree plans are available: one which requires a thesis, and a second which requires two research papers. Limited assistantships are available for qualified students on a competitive basis. Semester System.

STAFF:

Edward Aguado, Ph.D., Wisconsin, 1983, Assistant Professor—climatology, meteorology

James D. Blick, Ph.D., UCLA, 1956, Associate Professor—California, Europe

Albert A. Colombo, M.A., San Diego State, 1963, Assistant Professor—political, cultural

Larry R. Ford, Ph.D., Oregon, 1970, Professor—urban, urban design, cultural

Barbara E. Fredrich, Ph.D., UCLA, 1975, Associate Professor—Latin America, vegetation, cultural

Ned H. Greenwood, Ph.D., Ohio State, 1963, Professor—soils, environment, human ecology

Ernst C. Griffin, Ph.D., Michigan State, 1972, Professor—Latin America, cultural

Warren A. Johnson, Ph.D., Michigan, 1969, Professor—natural resources, cultural

Elmer A. Keen, Ph.D., Washington, 1965, Professor—marine resources, East Asia, cultural

E. J. Conrad Kiewiet de Jonge, Ph.D., Clark, 1951, Professor—climatic and structural geomorphology, air photo interpretation, history of geography

David S. McArthur, Ph.D., Louisiana State, 1969, Associate Professor—physical, coastal and fluvial geomorphology, quantitative methods

Bob R. O'Brien, Ph.D., Washington, 1965, Professor—conservation, outdoor recreation

Philip R. Pryde, Ph.D., Washington, 1969, Professor—environmental quality, water resources, Soviet Union

Imre E. Quastler, Ph.D., Kansas, 1971, Professor—transportation, urban

Douglas A. Stow, M.A., UC, Santa Barbara, 1978, Assistant Professor—remote sensing, field methods

Frederick P. Stutz, Ph.D., Michigan State, 1970, Professor—transportation analysis, urban systems, quantitative methods, computer applications

Richard D. Wright, Ph.D., Kansas, 1967, Professor—cartography, map analysis

Charles C. Yahr, Ph.D. Illinois, 1956, Professor—cultural, South and Southeast Asia, United States

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Gauss-Powell, Diana. "Use of Open Space Easements for Biological Protection," 1983.* Mf., University Microfilms.

Hix, Michael Howard. "An Analytical Comparison of Landsat Computer-Compatible Tapes and Film Imagery," 1982.* Mf., University Microfilms.

Paulson-Gross, Daira. "In-Flight Passenger Orientation," 1983.* Mf., University Microfilms.

Sherwood, Lee. "An Interagency Analysis of Wilderness Management; Methods and Concerns at Four Southern California Wilderness Areas," 1983.* Mf., University Microfilms.

San Francisco State University

DEPARTMENT OF GEOGRAPHY AND HUMAN ENVIRONMENTAL STUDIES

DATE FOUNDED: 1937 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 36
NOT IN RESIDENCE: 35

CHAIRPERSON: Jean Vance

FOR FURTHER INFORMATION WRITE TO: Steven R. Pease, Graduate Advisor, Department of Geography and Environmental Studies, San Francisco State University, 1600 Holloway Avenue, San Francisco, California 94132
Telephone (415) 469-2049

PROGRAMS AND RESEARCH FACILITIES: The M.A. program is directed toward a broad base of knowledge in geography. The department has an interest in meeting the needs of planners, cartographers, and professional geographers as well as those intending doctoral studies. Opportunities to do concentrated work do exist, particularly in several sub-fields: regional planning, environmental studies, geographic techniques, physical, regional, cultural-historic, and urban-economic. Research facilities include a photocartographic laboratory, a map library, access to the college computer center and environmental field stations.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. Completion of a minimum 30 units of work in geography including four graduate seminars and a Master's thesis or examination option; no foreign language requirement. Individualized programs reflecting the interests and career goals of each student are developed insofar as faculty with those interests are available. A minimum of 3 semesters needed for completion of course work; limited summer program. Admission requirements—15 undergraduate semester hours in geography with B average for last two academic years (deficiencies in undergraduate program to be made up without counting toward required graduate hours); three letters of recommendation. Only a few assistantships are available for advanced students already in residence.

STAFF:

Lawrence E. Band, Ph.D., UCLA, 1981, Lecturer—landform geography, water resources

Roger J. Crawford, Ph.D., Washington, 1969, Professor—regional planning, environmental impact and design, urban transportation

Burton L. Gordon, Ph.D., UC, Berkeley, 1954, Professor—field study, biogeography, Europe
Richard F. Hough, Ph.D., Wisconsin, 1963, Professor—cultural, Japan, field study
Max C. Kirkeberg, M.S., Wisconsin, 1961, Associate Professor—geographic education, cultural, San Francisco, Africa
Hans-J. Meihoefer, Ph.D., Washington, 1968, Professor—geographic methodology, environmental management, agriculture
Steven R. Pease, Ph.D., Wisconsin, 1977, Associate Professor—climatology-meteorology, physical, environmental problems, remote sensing
Robert D. Picker, Ph.D., Washington, 1962, Professor—economic, environmental management, U.S.S.R.
Georg Treichel, M.A., UC, Berkeley, 1969, Professor—biogeography, environmental studies, human ecology, transportation
Jean Vance, Ph.D., Clark, 1958, Professor—urban, cultural
John E. Westfall, Ph.D., George Washington, 1968, Professor—historical, quantitative, computer applications, population

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:
Al-Hijji, Abdul-Mohsen A. "Riyadh as a Case Study of Urban Growth," 1982.
Calbreath, Joseph R. "500-Millibar Flow Patterns and Significant Snowfall over Southwestern Oregon," 1982.
Carberry, Robert W. "Water Balance Model of Pyramid Lake, Nevada," 1983.
Murphey, Frances A. "Steam Navigation and Trade Networks on the Upper Missouri River, 1819-1887—A Primary Factor in the Development of the Northern Plains," 1982.
Young, Dennis. "The Effect of Summer Rainfall on the Plant Ecology of Two Subalpine Meadows in the Sierra Nevada of California," 1983.

San José State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1965 **GRADUATE PROGRAM FOUNDED: 1966**

DEGREES OFFERED: M.A.

GRANTED 7/1/82-8/1/83: 3

GRADUATE STUDENTS IN RESIDENCE: 19
NOT IN RESIDENCE: 11

CHAIRMAN: Bill H. Takizawa

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Michael P. McIntyre, Graduate Coordinator, Department of Geography, San José State Uni-

versity, 1 Washington Square, San José, California 95192
Telephone: (408) 277-3463

PROGRAM AND RESEARCH FACILITIES: The program comprises advanced studies in a required core and specialization in a selected field. The region of interest or the topic of research specialization, consonant with faculty interests and university resources, is broadly framed to provide flexibility in developing the candidate's study focus. Several areas of concentration within geography may be selected. Currently, most graduate work falls into the following fields of research specialization: natural hazards, remote sensing, advanced cartography, and environmental problem analysis. A well-equipped lab, which includes a computer, density slicer, electronic digitizer, zoom transfer scope, copy camera, and numerous cartographic devices, complements advanced research.

ACADEMIC PLAN AND ADMISSION REQUIREMENTS: The program, containing a thesis and a non-thesis option, consists of 30 semester units, the equivalent of one full academic year. Minimal university admission requirement is a 2.5 grade average. Generally there are no financial aids. Semester system.

STAFF:

Richard A. Ellefsen, Ph.D., UC, Berkeley, 1968, Professor and Associate Academic Vice-President for Graduate Studies and Research (part-time teaching)—international urban terrain analysis, remote sensing

Allan R. Fishman, Ph.D., Illinois, 1971, Professor—economic, North America, quantitative methods

Michael P. McIntyre, Ph.D., Ohio State, 1951, Professor (part-time)—physical, economic, Pacific, Far East, national parks

Duilio Peruzzi, Ph.D., Michigan, 1963, Professor—cartography, remote sensing, land use, Europe

Lester B. Rowntree, Ph.D., Oregon, 1971, Professor—climatic variability, natural hazards, environmental studies, research methods

David E. Schwarz, Ph.D., Kansas, 1976, Professor—remote sensing, thematic cartography, human

Bill H. Takizawa, Ph.D., Illinois, 1971, Professor—economic, natural resources, cartography, East Asia

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Adams, Janet. "Effects of Precipitation upon Slope Stability in the San Felipe Valley, California," 1983.

Shippensburg University

DEPARTMENT OF GEOGRAPHY-EARTH SCIENCE

DATE FOUNDED: 1934 GRADUATE PROGRAM FOUNDED: 1976

DEGREES OFFERED: M.S. in Geoenvironmental Studies

GRANTED 7/1/82-6/30/83: 8

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 10

CHAIRMAN: John E. Benhart

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairperson, Geography-Earth Science Department, Shippensburg University, Shippensburg, Pennsylvania 17257
Telephone (717) 532-1685

PROGRAMS AND RESEARCH FACILITIES: The Geoenvironmental Studies Program is designed to prepare planners, researchers, and educators with a broad understanding of the environment and with the technical and managerial skills of problem-solving. Instead of the more narrow, traditional single-science approach, this academic degree draws upon the interactions of the disciplines of geography and the earth sciences to prepare the geoenvironmental specialist. Namely, the geographic expertise is in the form of environmental relations, land use, locational analysis, resources, and regional knowledge; the earth science expertise is in the form of the applied aspects of geology, meteorology, hydrology, and soil science.

This specialization prepares graduates for positions at the operational and policy-making levels in federal, state, and local governmental agencies, industry, and consulting firms, as well as for higher levels of education and doctoral work in this field.

Graduate students majoring in Geoenvironmental Studies have the opportunity to experience an internship as part of their graduate course work. Many employers consider internships important for personnel recruitment, and many internships develop into full-time jobs after graduation.

The main objectives of the Geoenvironmental Science Internship Program are the following: the student intern will be exposed to the real problems and activities of the community from the perspective of the work organization where he/she is placed; the student intern ideally will be introduced to central activities and projects of the sponsoring organization; the student will have the opportunity and the responsibility for completing a worthwhile project; and the student will have the opportunity to apply geographic and environmental theory, techniques, and knowledge to real-life practices.

Geoenvironmental Studies majors have received internships with a variety of governmental and private agencies. The Governor's Energy Council, Department of Environmental Resources, Governor's Council on Drug and Alcohol Abuse, Department of Community Affairs, and Department of Education have provided internships for our majors at the state level.

Internship placements have been arranged with the Soil Conservation Service; Capital Region Planning and Development Agency; Municipal Planning Office, Washington, D.C.; Montgomery County Planning Commission; United States Geological Survey; Hershey Foods Corporation; Shippensburg Borough; Region VI Energy Center; Dunn Geoscience Corporation; and Environmental Consultants. These internships have provided our students with practical experience to enhance their entrance into the job market.

Some of the positions obtained by our graduates and some of their employers include physical scientist with the federal government; planner, Washington County, Maryland; conservationist, Dauphin County Soil Conservation District; Department of Environmental Resources; head planner, City of Titusville, Florida; physical scientist, United States Geological Survey; Texaco; community research and development consultant; and a Ph.D. candidate, Southern Illinois University.

The Department of Geography-Earth Science is housed in Shearer Hall. Facilities include a cartographic laboratory, air photo-remote sensing facilities, photographic laboratory, data processing center, soils laboratory, rock and mineral laboratory, microclimatological station, air photo and map library, and a wide range of field equipment and instruments for topographic, geologic, land use, meteorologic, hydrologic, soil, and subsurface surveys. A new Apple II microprocessor is located in the department. Graphic tablets and remote sensing packages are available for student use.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: An applicant must meet the minimum standards of the Shippensburg University Graduate School and must have an undergraduate minimum of (a) 12 hours in geography, or 12 hours in the earth sciences, or a combined total of 18 hours in the two fields; or (b) 15 hours in the social sciences, including six hours of geography, and 15 hours in the natural sciences, including six hours in earth sciences. A student must have a 2.5 average on a 4.0 system or attain an acceptable score on the Miller Analogy Test for acceptance by the Graduate School. Conditional admission may be granted by the Departmental Graduate Faculty Committee for a student lacking the required level of entrance credits. Full admission will be granted after the deficiencies have been corrected and six hours of graduate work successfully completed.

Each student will plan a program on an individual basis with the graduate faculty, ensuring a balanced natural/social science background. For graduation with a Master of Science degree in Geoenvironmental Studies, a student must complete 24 hours of electives in geoenvironmental courses, six hours of electives in the behavioral, social, or natural sciences, and a six-hour internship or a Master's thesis.

Graduate assistantships are available during the academic year and include waiver of tuition fees and carry stipends. Full-time students interested in appointments for the academic year should request applications from the Dean of the Graduate School or the Department Chairman before February 15. Assistantships require two letters of recommendation and a statement of career goals and objectives.

STAFF:

John E. Benhart, Ph.D., Tennessee, 1972, Professor and Chairman—industrial and manufacturing systems, environmental land use planning, New Zealand

Daniel P. DeVitis, Ph.D., Pittsburgh, Associate Professor—landforms, field techniques, soils, terrain analysis, geographic information systems

Philip E. Donatelli, Ph.D. candidate, Maryland, Assistant Professor—air pollution, applied meteorology and climatology

Wallace W. Drexler, D. Ed., Pennsylvania State, Associate Professor—economic geology, paleoecology, oceanography, historical geology

Jane H. Ehemann, Ed.D., Georgia, 1974, Associate Professor—conservation, urban geography, Soviet Union, Africa

John J. Ford, Ph.D., Michigan State, 1974, Associate Professor—planning methods, transportation, remote sensing, land use controls

Robert C. Harper, D.Ed., Pennsylvania State, 1975, Associate Professor—political geography, cultural environment, historical geography

Kermit Laidig, Ph.D., Nebraska, Professor—geography of Latin America, tropical lands, agricultural land use

Ronald M. McCall, Ph.D., Maryland, Associate Professor—atmospheric environment, climatology, cartography

William C. Rense, Ph.D., Oregon State, 1974, Assistant Professor—physical geography, conservation, energy, water resources

C. Robert Scull, D.Ed., Pennsylvania State, 1974, Professor—Asian geography, curriculum/instruction, cultural environment

William R. Shirk, D.Ed., Pennsylvania State, Professor—environmental geology, applied geomorphology, geologic hazards

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Lydzinski, John C. "Relationships between Remote Sensing Linears and Structural Features as Observed in Underground Mining Operations," 1982.

Thomas, Donald E., Jr. "Development and Application of a Park Planning Model—A Mechanicsburg Area Case Study," 1982.

University of South Carolina

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1963 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A., M.S., M.A.T., I.M.A. in Teaching

GRANTED 7/1/82-6/30/83: 7 Masters

GRADUATE STUDENTS IN RESIDENCE: 39
NOT IN RESIDENCE: 6

CHAIRMAN: Julian V. Minghi

FOR CATALOG AND FURTHER INFORMATION WRITE TO. Director of Graduate Studies, Department of Geography, University of South Carolina, Columbia, South Carolina 29208
Telephone (803) 777-5236

PROGRAMS AND RESEARCH FACILITIES: The department offers graduate programs in geography leading to the Master of Arts, Master of Science, and Master of Arts in Teaching degrees. The M.A. and M.S. programs are designed to prepare students for further graduate study and for employment in such areas as planning, business, government service, and teaching. The M.A.T. and the I.M.A. in Teaching programs are offered in cooperation with the College of Education. The former prepares non-certified students to teach in the public schools or to pursue further graduate study in the teaching field and in professional education; the latter is for certified secondary school teachers.

The department offers training in fundamental geographic skills and the opportunity for advanced study and research in a variety of fields. Curriculum specializations reflect faculty interest and competency and include Cartography and Remote Sensing, Cultural-Historical, Overseas Development, Recreational, and Urban. Coursework clusters also include Economic and Applied Geography, Environmental Perception and Behavioral Geography, History of Geography, Regional Studies and Physical Geography.

Research facilities include a well-equipped cartographic-photographic laboratory run by a full-time graphics supervisor, a Remote Sensing and Aerial Photography Interpretation Laboratory, and a Computer Mapping Laboratory. Equipment includes CRT terminals, two graphic digitizers, stereo-facet plotter, satellite image color compositing equipment, and a variety of photo interpretation viewing and measuring instruments. In addition, IMAGES, RIPS, ELAS, and COMTAL image processing systems are available for graduate student research in remote sensing. The department maintains a weather station on campus and has comprehensive files of meteorological data including computer tape records. The University library, a member of the select Association of Research Libraries, contains more than 3 million processed volumes; its Map and Air Photo Depository holds 175,000 sheet maps, 1500 atlases, and 55,000 air photos.

The department has excellent facilities for data analysis and computer oriented projects. These include several electronic calculators, two Apple computer systems, two IBM systems for word processing, and CRT terminals. Access to the main university computer (Amdahl V6-II) is readily available through terminals in the department and in the Social and Behavioral Sciences Lab. A vast set of statistical and computer mapping software is available on the system. The department employs a systems analyst and has access to programming and consulting services in the Social and Behavioral Sciences Lab.

N.B. A Ph.D. program with emphasis on geographical information processing (remote sensing, cartography, and geographical information systems) is being proposed and, if approved, may start in Fall 1984.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* The degree programs require a minimum of 30-36 semester hours of graduate work. Small, informal classes and seminars offer students the chance to work closely with the faculty, while flexible program requirements offer the opportunity to take related work in other University departments. Specialization in the M.A. and M.S. programs normally is attained through the writing of a thesis in addition to at least 24 semester hours of coursework. There is, however, a non-thesis option in the Cartography-Remote Sensing curriculum; it requires a minimum of 36 semester hours of coursework and the acceptance of two seminar papers as an alternative to the traditional thesis. Knowledge of a foreign language is not required unless a student intends to do field work abroad. The M.A.T. program concentrates on coursework and requires neither a thesis nor a foreign language proficiency. M.A.T. students normally take 6 credits in graduate education courses and from 15 to 24 credits in geography. Additional courses in education may be necessary to meet South Carolina certification requirements. Master's degree students may accelerate their progess by taking advantage of the two summer sessions offered each year. Each summer the department sponsors a field trip in the Southeast for entering students. *Admission Requirements:* Applications are welcome at any time, and students may matriculate at the beginning of any semester or summer session. In support of any application, a student is required to submit official transcripts of all previous study, Graduate Record Examination scores, two letters of recommendation, and a brief written statement describing career objectives and probable specialties. M.A.T. program applicants may elect to submit scores on the National Teachers Examination (NTE) in lieu of the GRE. The Department does not require an applicant to have an undergraduate major in geography; rather it requires evidence of general intellectual ability. *Financial Aid:* Beginning graduate assistantships carry stipends of $3800 for approximately 14 hours per week for the academic year, and include a waiver of general tuition fees. Stipends usually are increased over subsequent semesters of residence. A limited number of summer assistantships ($600 per session) are also available. Course fees for assistants are currently $150 per semester. The normal deadline for Fall semester assistantship applications is March 15; the corresponding deadline for Spring semester applications is December 10.

STAFF:

Allen D. Bushong, Ph.D., Florida, 1961, Associate Professor—history of geography, source materials, cultural, Middle America

David J. Cowen, Ph.D., Ohio State, 1971, Professor and Director of Social and Behavioral Sciences Laboratory—economic, locational analysis, quantitative

John F. Jakubs, Ph.D., Ohio State, 1974, Associate Professor—urban, social, housing, quantitative methods

Robert L. Janiskee, Ph.D., Illinois, 1974, Associate Professor—recreation, resources, environment, futures

John R. Jensen, Ph.D., UCLA, 1976, Associate Professor—remote sensing, cartography

Charles F. Kovacik, Ph.D., Michigan State, 1970, Associate Professor—historical, human, North America

Robert E. Lloyd, Ph.D., Pennsylvania State, 1974, Associate Professor—behavioral, quantitative methods, urban

Paul E. Lovingood, Jr., Ph.D., North Carolina, 1962, Professor—migration, recreation, computer graphics

Julian V. Minghi, Ph.D., Washington, 1962, Professor—political, Europe

Lisle S. Mitchell, Ph.D., Ohio State, 1967, Professor—urban-economic, recreation

John C. Purvis (part-time), M.S., South Carolina, 1969, Teaching Associate—meteorology

Anthony Sas, Ph.D., Clark, 1956, Associate Professor—political-military, Europe, Southeast Asia

Richard G. Silvernail, Ph.D., North Carolina, 1960, Professor—resources, geographic education, small area analysis

William R. Stanley, Ph.D., Pittsburgh, 1966, Professor—transportation, political, developing regions

Theodore R. Steinke, Ph.D., Kansas, 1979, Associate Professor—cartography

John J. Winberry, Ph.D., Louisiana State, 1971, Associate Professor—cultural-historical

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Brunjes, Kenneth M. "Determination of Shoreline Vulnerability to Oil Spills Using Landsat," 1982.

Campbell, William C. "Spatial Orientation of the United States Aluminum Industry," 1983.

Friedli, Eric A. "The Geography of Federal Spending in Needy Cities," 1983.

Jones, Brenda G. "Texture Analysis in Landsat Multitemporal Classification," 1983.

Pace, Peter J. "Remote Sensing and Image Processing of Thermal Plumes," 1983.

South Dakota State University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1967 GRADUATE PROGRAM FOUNDED: 1974

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 20
NOT IN RESIDENCE: 6

HEAD: Edward Patrick Hogan

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Charles F. Gritzner, Graduate Program Coordinator, Department of Geography, South Dakota State University, Brookings, South Dakota 57007
Telephone (605) 688-4613

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers graduate students the opportunity to earn the Master of Science degree. The graduate curriculum is organized through formal courses, seminars, internship experiences and supervised research. Special programs can be taken through a cooperative arrangement with the EROS Data Center and the SDSU Remote Sensing Institute. Internships are available with planning districts, governmental agencies and business and industry. The Department of Geography is housed in Scobey Hall. The H.M. Briggs Library contains the largest geography collection in the state. The South Dakota State University Research and Data Processing Center, the Remote Sensing Institute and the Institute of Social Science for Rural and Urban Planning offer related facilities to benefit the student.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: A minimum of thirty semester credits (30) are required for the Master's degree, of which at least 17 must be earned in the major. The thesis accounts for 6 of these credits. Financial aid includes several Graduate Teaching Assistantships.

STAFF:

Orville Gab, M.S., South Dakota State, 1979, Instructor—cartography, physical

Charles F. Gritzner, Ph.D., Louisiana State, 1969, Professor—cultural, developing countries, history and philosophy of geography, geographic education

Janet H. Gritzner, Ph.D., Louisiana State, 1978, Assistant Professor—cultural, remote sensing, anthropology

Edward Patrick Hogan, Ph.D., Saint Louis, 1969, Professor and Associate Dean—South Dakota, human, research, industrial

Gary E. Johnson, Ph.D., Indiana State, 1974, Adjunct Professor—remote sensing, natural resources, planning

Glenn Landis, M.F., Pennsylvania State, 1954, Adjunct Professor—remote sensing, photogrammetry, forestry

Thomas R. Loveland, M.S., South Dakota State, 1976, Assistant Professor—remote sensing

Lee A. Opheim, Ph.D., Saint Louis, 1971, Associate Professor—physical, cartography, historical

Larry D. Roberts, Ph.D., Oklahoma State, 1981, Assistant Professor—historical, human, political

Maynard L. Samuelson, M.A., North Dakota, 1965, D.A. Candidate, Northern Colorado, Assistant Professor—planning, economic, industrial, regional

Roger K. Sandness, M.S., North Dakota, 1968, Ph.D. Candidate, Iowa—physical, computer cartography, quantitative methods

Arthur Wilner, Ph.D., Michigan, 1973, Adjunct Associate Professor—planning

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Hillestad, Linda K. "The Changing Impact of Natural Disasters in Brookings County, South Dakota," 1982.

Holm, Thomas M. "Canonical Analysis: The Use of Transform Landsat Data for Crop-Type Discrimination," 1983.

Mahmoud, Ali A. "Climate and Agriculture in Jordan," 1983.

Southern Illinois University at Carbondale

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1936   GRADUATE PROGRAM FOUNDED: 1949

DEGREES OFFERED: M.A., M.S., M.S.Ed., Ph.D.

GRANTED 7/1/82-6/30/83: 4 Masters 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 10 Masters 12 Ph.D.
NOT IN RESIDENCE: 2 Masters 3 Ph.D.

CHAIRMAN: David G. Arey

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Secretary, Department of Geography, Southern Illinois University, Carbondale, Illinois 62901
Telephone (618) 536-3375

PROGRAMS AND RESEARCH FACILITIES: The Geography Department offers Masters' and Ph.D. degrees with concentrations in PHYSICAL-ENVIRONMEN-

TAL SYSTEMS (energy and moisture concepts as they affect local hydrology, soils, natural vegetation, agriculture and landforms); NATURAL RESOURCES MANAGEMENT (the role of resources in economic development and regional planning from a physical, technological, social, economic, and geographical viewpoint; public policy choices for land, air, and water quality management); and URBAN AND REGIONAL PLANNING (the role of demographic, socioeconomic, political, and historical phenomena as they affect spatial policies for urban and regional organization; public and private resource-allocation criteria, planning agency structure and philosophy). Courses dealing with research techniques include the management of spatial data bases, elementary and multivariate statistical models, specialized computer mapping, forecasting methodologies, and principles of research. The graduate program is based upon an interdisciplinary problem-solving perspective and major linkages exist within the university with many other departments

The department is housed in the College of Liberal Arts close to the university's main library and the two I/O areas of our IBM 370/158 System. Interactive computing facilities and a computer programmer are also present in the department and computer digitizing facilities are available. Fully equipped cartographic and climatological laboratories are maintained by the Geography Department. The university library is one of the largest in North America with over 1.8 milion volumes and over 100,000 flat maps served by a full-time librarian.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: All graduate applicants must request application forms for admission. These must be completed and returned to the department by February 15 to ensure consideration for admission and financial support for the Fall semester. Application includes letters of recommendation, transcripts, and a statement of professional goals. All applicants are requested to take the Graduate Record Exams (GRE's) and submit these with their applications. Every applicant is considered for financial assistance and is notified by April 15 of the department decision. Financial awards include teaching assistantships, research assistantships, and University fellowships.

STAFF:

David G. Arey, Ph.D., Clark, 1968, Associate Professor—environmental planning, air quality, land use management

Duane D. Baumann, Ph.D., Clark, 1967, Professor—resource management, environmental perception, natural hazards, water resources planning

Ronald I. Beazley, Ph.D., Purdue, 1953, Professor—economics in geography, resource allocation, planning, public expenditure and projects, quantitative analysis

John J. Boland, Ph.D., Johns Hopkins, 1973, Adjunct Associate Professor—environmental economics, water resources management, public policy analysis

David E. Christensen, Ph.D., Chicago, 1956, Professor—urban and regional planning, cartography, planning theory, citizen participation in planning

A. Doyne Horsley, Ph.D., Southern Illinois, 1974, Assistant Professor—environmental psychology, affective education, inconsistencies between attitudes and behavior toward environment

Daniel Irwin, Ph.D., Syracuse, 1972, Associate Professor—cartography, computer graphics, terrain representation in American cartography

David L. Jones, Ph.D., Pennsylvania State, 1960, Professor—meteorology, earth and environmental sciences; solar, ocean, and alternate energy planning (on leave)

Stanley R. Lieber, Ph.D., Iowa, 1974, Associate Professor—behavioral and spatial analysis, recreation planning, population patterns, quantitative methods

Colin W. Prowse, Ph.D., Southampton, 1982, Assistant Professor—hydrology, urban hydrology, water quality

Clifford S. Russell, Ph.D., Harvard, 1968, Adjunct Professor—economic analysis of environmental quality, energy, resources, urban water resource planning

David M. Sharpe, Ph.D., Southern Illinois, 1968, Associate Professor—climatology, biogeography, land use effects on the global carbon cycle, regional ecosystem analysis

John H. Sims, Ph.D., Chicago, 1964, Adjunct Professor—environmental perception, psychological responses to environmental hazards

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Miller, Stephen L. "Environmental Values Underlying Positions Taken Towards Environmental Issues," 1982.* Mf., University Microfilms.

Nsofor, Godwin. "Leisure and Water-Based Outdoor Recreation in Nigeria: A Case Study of the Ikpoba Reservoir in Benin City," 1982.* Mf., University Microfilms.

Master's:

Cline, Joshua H. "A Case Study of Development Alternatives for the Weis Ecology Center," 1982.*

Cuba, Laurence. "A Survey of Human Perception of Groundwater Characteristics in Karst Terrain and Its Impact on Karst Groundwater Quality," 1983.*

Curry, Lynn L. "Perception of Drinking Water Quality: Consumer Dissatisfaction," 1982.*

Gebhart, Mark. "Stream Response to Sediment Contribution from the Mine Tailings of the Ruby Mine, Fourmile Creek, Boulder County, Colorado," 1982.*

Southern Illinois University—Edwardsville

DEPARTMENT OF EARTH SCIENCE, GEOGRAPHY AND PLANNING

DATE FOUNDED: 1957 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A. and M.S. in Geography, Master of City and Regional Planning

GRANTED 7/1/82-6/30/83: 12 Geography, 7 Planning

GRADUATE STUDENTS IN RESIDENCE: 10 Geography, 22 Planning
NOT IN RESIDENCE: 7 Geography, 17 Planning

CHAIRPERSON: Charles A. Thornton

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairperson, Department of Earth Science, Geography and Planning, Box 45, Southern Illinois University-Edwardsville, Edwardsville, Illinois 62026-1001
Telephone (618) 692-3620

PROGRAMS AND RESEARCH FACILITIES: Master's degrees in Geography and in City and Regional Planning are offered by the department, emphasizing a problem solving approach. The geography degree accommodates specialization in cultural, economic, regional and physical geography. Planning emphasizes a systems approach incorporating budgeting and management together with land-use planning and design.

The Master of Arts requires a thesis. For the Master of Science two research papers are required. Both degrees require proficiency in quantitative techniques. Students may take either the 48-hour geography Masters or the 72 quarter-hour degree in urban planning. Internships are available. To date, student and faculty research has centered on problems related to the Greater St. Louis Area and the State of Illinois. Topics include problems of air and water quality, mine subsidence, transportation, area development, historic origins, environmental assessment, urban regional resource allocations, and the teaching of geography and earth science.

The department has a cartographic lab and geography lab featuring modern equipment. The department also has a computer workshop with interactive terminals, graphic display terminals, a flatbed plotter, and decwriter terminals. There is also a design workshop containing equipment for construction of three-dimensional models.

Many students receive training in land-use planning and geographic analysis by working in the University's Office of Area Development.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on the quarter system with out-of-state fees approximately $780 per quarter. Graduate admission ordinarily requires a B average or better, but

211

conditional acceptance may be granted in special circumstances. Fellowships and teaching assistantships pay $1800 to $3600 per year plus tuition depending on assignments.

FULL-TIME AND PART-TIME STAFF:

The department has four faculty specializing in Earth Science, nine faculty in Geography, and five in Urban Planning. Eight of the faculty are APA members. Call staff are utilized to supplement teaching of such specialties as photogrammetry and thematic mapping. Environmental assessment is interdisciplinary.

Deipica Bagchi, Ph.D., Oregon State, Associate Professor—resource geography

William B. Baker, Ph.D., Nebraska, Professor—cultural, historical geography

Donald W. Clements, Ph.D., Southern Illinois, Carbondale, Associate Professor—urban quantitative techniques

Charles F. Hess, Ph.D., Michigan State, Professor, APA—economic geography, water resources

Norman C. Johnsen, M.A., Syracuse, Assistant Professor, APA—planning administration

Alfred Kahn (part-time), M.S., Denver, Professor, APA—environmental planning

Harry B. Kircher, Ph.D., Clark, Professor, APA—economic geography, conservation

Robert L. Koepke, Ph.D., Illinois, Professor, APA—area development, industrial location

Fred A. Lampe, Ph.D., Kansas, Associate Professor—geographic techniques, educational geography, Europe

Carl S. Lossau, Ph.D., Northwestern, Professor, APA—urban and regional planning

Loran D. Marlow, Ph.D., Southern Illinois, Carbondale, Associate Professor—earth science

Robert E. Mendelson (part-time), M.U.P., Illinois, Associate Professor, APA—redevelopment, housing (private and public)

Halsey W. Miller, Ph.D., Kansas, Professor—petroleum geology

Donald Strohmeyer, M.R.P., Kansas State, Associate Professor, APA—design and physical planning

Alan M. Stueber, Ph.D., UC, San Diego, Associate Professor—mineralogy, geochemistry, physical geology

Noble R. Thompson, Ph.D., Tennessee, Associate Professor—Latin America, cartography

Charles A. Thornton, Ph.D., Tennessee, Professor—quantitative techniques, environmental and applied geography

Ronald E. Yarbrough, Ph.D., Tennessee, Associate Professor—earth sciences, environmental impact

University of Southern Mississippi

DEPARTMENT OF GEOGRAPHY AND AREA DEVELOPMENT

DATE FOUNDED: 1912 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A., M.S. in Geography, M.S. in Economic Development

GRANTED 7/1/82-6/30/83: 5 Masters

GRADUATE STUDENTS IN RESIDENCE: 19
NOT IN RESIDENCE: 4

CHAIRMAN: Robert W. Wales

FOR CATALOG AND FURTHER INFORMATION WRITE TO: For Geography Dr. Don Williams, and for Economic Development, Dr. Tim Hudson, Department of Geography and Area Development, S.S. Box 5051, University of Southern Mississippi, Hattiesburg, Mississippi 39401
Telephone (601) 266-4729

PROGRAMS AND RESEARCH FACILITIES: The department offers graduate programs leading to the Master of Arts and Master of Science in Geography and the Master of Science in Economic Development.

The degree programs in geography stress concentrations in atmospheric science, urban and regional planning, economic geography, population and cultural systems, and cartographic techniques balanced by staff specialties in a variety of other systematic and regional areas. All programs emphasize fieldwork, the application of technical skills, and the development of a research capability in a particular concentration of geography. All geography master's programs require a minimum of 36 credit hours—including thesis or non-thesis option.

The objective of the 39-hour program in Economic Development is to prepare individuals for leadership/practitioner positions at national, regional, state or community levels in the broad areas of economic development, with emphasis on industrial location analysis. A cooperative arrangement with the Mississippi Research and Development Center, probably the most comprehensive economic development agency in the country, is a main feature of the program.

The Department of Geography and Area Development occupies the second floor of the ten-story Johnson Science Tower. The department's facilities include well-equipped classrooms, darkroom, weather station, cartography-remote sensing laboratory, and quantitative laboratory. Laboratory equipment includes a color additive viewer, Zoom Transfer Scope, Zoom 70 Stereoscope and other visual image interpretation equipment, a coordinate digitizer, Decwriter IV and other computer terminals, and access to a Calcomp plotter and Tektronix 4010 CRT associated with the University's Xerox Sigma 9 computer, on which major mapping and statistical software has been implemented. The facilities of the Mississippi Research and Development Center and National Cartographic Information Center are also available to students working under any departmental degree plan.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University is on the semester system.

Candidates must be accepted by the University Graduate school. Admission to the departmental program is based on GPA, GRE score, three letters of recommendation, the experience record of the student, and the compatibility of his interests with those of the faculty.

Financial Aid: University grants-in-aid, various types of internships, fellowships, and teacning or research assistantships include stipend plus waiver of out-of-state tuition. Normally, all graduate students receive some type of financial assistance. March 1st is the deadline for applicants seeking financial aid in Geography or Economic Development. Applications for admission without aid will be considered until late spring. Notification of aid awards will be made by April 15.

STAFF AND ASSOCIATED FACULTY:

Ralph D. Cross, Ph.D., Michigan State, 1968, Professor—climatology, meteorology, water resources, watershed management

Joseph E. Flynn, Jr., AICP, M.A., St. Louis University, 1970, Assistant Professor—land use planning, agency management, planning theory, plan preparation, economic development

Tim W. Hudson, Ph.D., Clark, 1980, Assistant Professor—economic development, political, urban, Caribbean

Jesse O. McKee, Ph.D., Michigan State, 1972, Professor—cultural/social, historical, population and human resources, Africa

Robert W. Wales, Ph.D., Kansas, 1973, Associate Professor and Chairman—economic development, land use planning, resources management, field techniques, Latin America

Donald L. Williams, Ph.D., Kansas, 1977, Assistant Professor—cartography, remote sensing, aerial photo interpretation, computer graphics, and biogeography

Staff position to be filled in economic/industrial development and quantitative methods.

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Case, Robert. "The Local Economic Development Process: A Case Study of Lamar County, Mississippi," 1983.

Cohen, Randall. "Exporting and Economic Development in Southeast Mississippi," 1983.

Crabb, Kevin D. "State Residential Preference Patterns among Selected White College Students in Alabama, Louisiana, and Mississippi," 1983.

Dennison, Robert. "An Evaluation of the Quick Response Method of Estimating Vehicle Occupancy in Peoria, Illinois," 1983.

Weatherman, Lynda. "Chinese Aid and Tanzanian Economic Development: An Assessment," 1983.

Southwest Missouri State University

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

DATE FOUNDED: 1972 GRADUATE PROGRAM FOUNDED: 1979

DEGREES OFFERED: M.S. in Resource Planning

GRANTED 7/1/82–5/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 20

HEAD: Milton D. Rafferty

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor John Catau, General Graduate Advisor, Box 87, Department of Geography and Geology, Southwest Missouri State University, Springfield, Missouri 65804-0089
Telephone (417) 836–5688 or 5800 (department office)

PROGRAMS AND RESEARCH FACILITIES: The Master's of Science in Resource Planning is designed to provide professional training in resource planning activities that include land resource planning, mineral resources exploration and evaluation, map construction, aerial photograph interpretation and analysis, open space and recreational planning, and computer-based resource analysis and evaluation, and to develop professional resource managers of renewable and nonrenewable natural resources.

The Department of Geography and Geology is housed in Temple Hall which was completed in 1971. Research facilities include: x-ray diffractometer, scanning electron microscope, atomic absorption unit, seismic apparatus, gravimeter, and a complete line of surveying and field equipment. An exceptionally good line of equipment is available to support cartography, aerial photo, and remote sensing courses. Optical plotters, including ER–55, Kelsh, and Zeiss C–8, are housed in modern photogrammetry and cartography laboratories. SMSU also has on-line capability with advanced computer-based land resource analysis systems.

Field work is an integral part of the resource planning program. Hands-on experience is obtained through work in internships and in the Center for Resource Planning and Management. The department's map library is the largest of its kind in the region with more than 250,000 maps and a growing aerial photo collection. The new SMSU library completed in 1980 adjacent to Temple Hall includes a modern map library designed by department faculty.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on the semester system and has an active summer program of eight weeks. Students seeking admission should request application papers from the Admissions Office. All students must take the GRE. Transcripts and letters of reference must be submitted. Full admission requires a 3.0 average or better, but probational admission may be granted to students with lower grade point averages.

Teaching and research assistantships are available which include waiver of out-of-state fees.

STAFF:

David Castillon, Ph.D., Michigan State, 1972—physical, environmental, geomorphology, field methods, soils

John Catau, Ph.D., Michigan State, 1973—urban, land use planning, open space and recreation planning

William Cheek, Ph.D., Michigan State, 1976—economic, quantitative methods, research methods, housing

William Corcoran, Ph.D., Michigan State, 1981—climatology, computer mapping, biogeography

Stanley Fagerlin, Ph.D., Missouri, 1980—paleontology, geophysics

Russel Gerlach, Ph.D., Nebraska, 1974—cultural and ethnic geography

Elias Johnson, Ph.D., Oklahoma, 1977—cartography, remote sensing, climatology

V.E. Kurtz, Ph.D., Oklahoma, 1960—remote sensing, photogrammetry

Erwin Mantei, Ph.D., Missouri-Rolla, 1965—geochemistry, geochemical techniques

Donald McInnis, Ph.D., Missouri-Columbia, 1970—meteorology, climatology

James Miller, Ph.D., Wisconsin, 1971—paleontology, biostratigraphy

Thomas Moeglin, Ph.D., Nebraska, 1978—engineering and environmental geology, soils

Milton Rafferty, Ph.D., Nebraska, 1970, Department Head—historical economic geography, population, Missouri

Burl E. Self, Jr., Ed.D., Oklahoma State, 1978—resource planning, urban and regional planning

Kenneth C. Thomson, Ph.D., Utah, 1970—economic, karst geology, geologic mapping

TITLES OF THESES COMPLETED 7/1/82-5/30/83:

Master's:

Vujnich, Joseph D. "The Role and Implications of Ecological Planning in Making Land Use Decisions for the Busiek State Forest," 1982.

Southwest Texas State University

DEPARTMENT OF GEOGRAPHY AND PLANNING

DATE FOUNDED: 1965 GRADUATE PROGRAM FOUNDED: 1983

DEGREES OFFERED: Master of Applied Geography

GRANTED 7/1/82-6/30/83: 0

GRADUATE STUDENTS IN RESIDENCE: 22

CHAIRMAN: Richard G. Boehm

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dean of Graduate Studies and Research, J.C. Kellam Building. For further geography information write to: Robert D. Larsen, Graduate Advisor, Department of Geography and Plan-

ning, Southwest Texas State University, San Marcos, Texas 78666
Telephone (512) 245-2170

PROGRAMS AND RESEARCH FACILITIES: The Master of Applied Geography degree program is designed to train geographers and planners to use their skills and background knowledge to solve real-world problems with geographic dimensions. Applied geography involves work in such subfields as environmental management, land use planning, location analysis, land management, transportation systems planning, applied physical geography, geographic aspects of environmental law, and cartography. The degree is intended to provide training to prepare the student for middle-management-level employment. The research and analysis skills that are taught in this program are also excellent training for persons who intend to proceed to doctoral work in appropriate fields.

The M.A.G. degree requires a minimum of 39 hours of course work. This includes a core of nine hours that all students must take and a 15-hour concentration in either (1) physical and environmental studies, (2) land/area development and management, (3) applied cartography, or (4) general geography. Every student must also have a 6-hour resource area outside the department. Thesis or internship options may be chosen to complete the degree. Each student who chooses to write a thesis must complete a 3-hour internship course, and each student who selects the internship option must enroll in a 3-hour directed research course.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Applicants should have a GPA of 2.75 (scale of 4.0) based on the last 60 hours of undergraduate work or at least 2.5 plus a combined GRE score of 900 or above. All applicants are required to take the aptitude portion of the GRE. Application forms must be submitted at least 30 days before the beginning of the semester of entrance. Scholarships and graduate assistantships are awarded on a competitive basis, subject to availability.

STAFF:

Byron D. Augustin, D.A., Northern Colorado, 1976, Associate Professor—conservation of resources, Africa, Anglo-America, geographic education

Richard Averack, Ph.D., Western Ontario, 1983, Assistant Professor—computer mapping and graphics, quantitative methods, cartography

Richard G. Boehm, Ph.D., Texas, 1975, Professor and Chairman—economic and social geography, market area analysis, geographic education

Donald Brandes, Ph.D., Florida, 1981, Assistant Professor—geomorphology, applied physical geography, field methods

Ray Y. Gildea, Jr., Ed.D., Virginia, 1970, Professor—cultural geography, resource and environmental law

James D. Harrison, Ph.D., Oklahoma, 1972, Professor—community and regional planning, corporate planning, urban systems, human geography, location analysis

Allen D. Hellman, Ph.D., Michigan, 1962, Professor—cartography, photogrammetry, remote sensing, land use studies, field methods, physical geography

7

Robert D. Larsen, Ph.D., Wisconsin-Madison, 1976, Associate Professor—urban and regional planning, land use and environmental policy studies, transportation planning, physical geography, solid waste management

James F. Petersen, Ph.D., Utah, 1981, Assistant Professor—geomorphology, applied physical geography, field methods

Sent Visser, Ph.D., Ohio State, 1979, Assistant Professor—agricultural systems, location analysis, energy policy, quantitative methods

ADJUNCT FACULTY:

Dean V. Ferguson, MCRP, Harvard, 1980, Assistant Director, Technical Services, Edwards Aquifer Research and Data Center—city and regional planning, environmental planning

Albert E. Ogden, Ph.D., West Virginia, 1976, Assistant Director, Hydrogeology, Edwards Aquifer Research and Data Center—hydrogeology, hydrochemistry, environmental geology, karst geomorphology, geostatistics

University of Southwestern Louisiana

DEPARTMENT OF GEOGRAPHY AND CITY AND REGIONAL PLANNING

DATE FOUNDED: 1954 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 0

HEAD: Dennis K. Ehrhardt

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Dennis K. Ehrhardt, Box 4-3531, USL Station, Lafayette, Louisiana 70504
Telephone (318) 231-5725

PROGRAMS AND RESEARCH FACILITIES: Thesis (24 hours plus thesis) and non-thesis (36 hours) are available. Cartography, basic statistics, and economic geography required if not taken as an undergraduate. Research methods and research seminar are required of all graduate students. Internships are available. The program has a geography option with concentrations in urban geography, locational analysis, and social-political geography. There is also a city and regional planning option with concentrations in urban planning and regional development. All student programs are individually designed and emphasize research skills. The department's cartography lab, map and planning library, and computer terminal are available to graduate students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Admission requires undergraduate grade point average of 2.5 (on a 4.0 scale), an acceptable GRE score, and a minimum of 18 hours of geography or planning. Graduate teaching and research assistantships are available on a competitive basis. Beginning assistants are paid $4000 for two semesters plus remission of tuition for the academic year and summer session. University fellowships and other financial aid programs are available.

STAFF:

O. Douglas Abington, Ph.D., Louisiana State, 1973, Assistant Professor—physical, fluvial geomorphology

Henry W. Bullamore, Ph.D., Iowa, 1978, Assistant Professor—urban, social, political, research methods

Mark S. Charnews, Ph.D., Ohio State, 1982, Instructor—transportation, quantitative methods, regional and industrial development

Dennis K. Ehrhardt, AICP, Ph.D., Iowa, 1972, Professor—urban, urban planning, land use analysis

David C. Johnson, Ph.D., Washington, 1976, Associate Professor—urban planning, economic analysis, demography

Timothy F. Reilly, Ph.D., Missouri, 1972, Associate Professor—cultural, historical, regional

Emmett F. Stallings, Ph.D., Florida State, 1970, Associate Professor—water resources, physical

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Malhan, Ali. "The Iron and Steel Industry in Saudi Arabia," 1983.

State University of New York at Albany

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A., M.R.P.

GRANTED 7/1/82–6/30/83: 13

GRADUATE STUDENTS IN RESIDENCE: 19
NOT IN RESIDENCE: 3

CHAIRMAN: Floyd M. Henderson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Admissions Office, College of Arts and Sciences, State University of New York at Albany, 1400 Washington Avenue, Albany, New York 12222
Telephone (518) 457-8683

PROGRAMS AND RESEARCH FACILITIES: The master's program in geography is designed to provide individually designed specialization for students preparing for a variety of careers in business, government, or for doctoral work at another university. The department emphasizes training in the systematic fields and techniques through core specialties in: behavioral and social geography, cartography, computer techniques, energy and natural resource management, remote sensing, spatial and mathematical modeling, transportation systems, and urban and regional planning.

In any of these core areas a student may develop, under advisement, a program track specific to his or her interests and academic goals.

Work toward the M.A. includes 30 credit hours. Students are required to enroll in either a graduate research seminar or, with permission, a thesis program. A comprehensive departmental oral examination is also required.

Beginning in Fall 1982 the department will administer a separate two-year, 48-unit professional degree of Master of Regional Planning with specialization tracks in state and regional, urban, and transportation planning.

In each master's program internships are available offering practical on-the-job experience with private businesses and state agencies such as the New York State Departments of Transportation, Energy, Environmental Conservation, and Commerce, Sea Grant Program, local planning commissions, and county governments. An array of supportive courses is available in the University's School of Criminal Justice, Graduate School of Public Affairs, Sociology, Economics, and many other departments.

Facilities available for support of the departmental program include the University Libraries with over one million items, the State Education Library, and well-equipped cartography and remote sensing laboratories including interactive graphics and digital image processing facilities linked by remote terminals to the University's UNIVAC 1100/82 computer. In addition to department and university facilities, location in the state capital affords ready access to the extensive resources of federal, state, regional and municipal agencies within the city.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University operates on the semester plan with additional Summer Sessions. Current University assistantships which carry stipends of $2450 to $4900 are available. The $2450 award carries, in addition, a waiver for half of the tuition. Students are also funded through foundation grants and governmental contract research. In addition there are State University scholarships, National Science Foundation Graduate Traineeships, and the New York State Scholar Incentive Program. Students are required to submit GRE aptitude scores if requesting financial aid.

STAFF:

Stanley F. Blount, Ph.D., Northwestern, 1962, Professor—physical, resource management

Michael W. Dobson, Ph.D., Kansas, 1977, Associate Professor—visual processing and map design, cartography, computer applications in cartography

W. Wayne Heiser, Ph.D., Northwestern, 1965, Associate Professor—Europe, U.S.S.R., political, energy resources

Floyd M. Henderson, Ph.D., Kansas, 1973, Associate Professor—remote sensing applications in land use, urban, and agriculture

Paul D. Marr, Ph.D., UC, Berkeley, 1967, Associate Professor of Geography and Chairman, Regional Planning Program—urban and regional planning, urban, coastal zone management

John S. Pipkin, Ph.D., Northwestern, 1974, Associate Professor—urban, behavioral, mathematical modeling, travel behavior

Christopher J. Smith, Ph.D., Michigan, 1974, Associate Professor of Geography, Regional Planning and Public Policy—behavioral and social, mental health and well-being, substance abuse

Roger W. Stump, Ph.D., Kansas, 1981, Assistant Professor—cultural geography of North America, religion and ethnicity, quantitative methods of regionalization

John W. Webb, Ph.D., Minnesota, 1958, Professor (Dean, College of Social and Behavioral Sciences)—human, especially settlement and population, Europe

ADJUNCT PROFESSORS:

David T. Hartgen, Ph.D. (transportation planning), Northwestern, 1973—transportation

Sambamurthy Thyagarajan, M.C.P., Ohio State, 1963—urban and regional planning

State University of New York at Binghamton

GEOGRAPHY DEPARTMENT

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 8

GRADUATE STUDENTS IN RESIDENCE: 18

CHAIRMAN: John W. Frazier

FOR CATALOG AND FURTHER INFORMATION WRITE TO: John W. Frazier, Chairman, Department of Geography, State University of New York at Binghamton, Binghamton, New York 13901
Telephone (607) 798-2755

PROGRAMS AND RESEARCH FACILITIES: The M.A. degree in geography may be earned by following one of three tracks:

Track 1: General Geography—Designed for students interested in geography within a liberal arts context. Provides disciplinary foundation along classical lines, which can lead to teaching careers, or, combined with history, economics, or other social sciences, can lead to interdisciplinary work in scholarly areas such as conservation, environmental management, economic development, and international studies.

Track 2: Analytical Geography—This track is designed to educate students as geographical/spatial analysts, with particular emphasis on environmental and land use planning. Among the essential components are cartography, remote sensing, field techniques, computer mapping, and mass-data processing. Its objective is career preparation in these areas. Another option within this track is an emphasis on physical systems and geomorphology. To fulfill this goal, practical experience obtained from internships and field research will be integrated into the formal curriculum. Competence resulting from this training also provides the option of pursuing the Ph.D. degree.

Track 3: Geography and Planning—Designed to educate students in urban analysis and planning, with particular emphasis on the integration of the environmental, urban-economic, and institutional aspects of private and public planning. Among the essential components of this program are geographic techniques, urban seminars, environmental concerns such as water management, community involvement, site selection and locational analysis, and practical experience through internship programs. Similar to Track 2, graduates will be able to work for public and private agencies as well as pursue advanced degrees.

A non-thesis option is available in all tracks.

A list of current employment of recent students is available upon request.

Extensive use is made of the IBM 370/155 computing system which includes a variety of statistical, simulation, and graphic routines in data analysis and plotting. Departmental facilities include modern cartography, remote sensing, air photo interpretation, and physical geography labs, computer terminals, digitizer, plotter, map library, classrooms, lecture halls, and library.

The department publishes the annual *Proceedings of the Applied Geography Conference*, and quarterly publishes *Research in Contemporary and Applied Geography*.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Admission requirements: Bachelor's degree, or its equivalent, and a reasonable background in geography. The department may require up to five courses of undergraduate work without credit to make up undergraduate deficiencies. Graduate assistantships are offered. Teaching and research assistantships and planning internship stipends are available to qualified candidates. A special Van Riper Assistantship is also available on a competitive basis. Apply to Dr. John Frazier, Chairman, Department of Geography, SUNY-Binghamton, Binghamton, New York 13901.

STAFF:

Morris Budin, Ph.D., New School for Social Research, 1954, Professor—urban/private planning, economic geography, quantitative

Joseph H. Butler, Ph.D., Columbia, 1960, Professor—water resources, economic, Latin America

John W. Frazier, Ph.D., Kent State, 1976, Associate Professor—urban-social, planning, hazards, field methods, Africa

Norah F. Henry, Ph.D., Kent State, 1976, Associate Professor—social, cartography, medical, computer mapping, geographic information systems

Shin-yi Hsu, Ph.D., UCLA, 1967, Professor—cartography/remote sensing, quantitative methods, Asia

Burrell E. Montz, Ph.D., Colorado, 1980, Assistant Professor—natural hazards, environmental planning, population and resources management

Lester B. Rowntree, Ph.D., Oregon, 1971, Visiting Professor—cultural/coastal geography, research methods, human ecology, water resources, climatic variability

Nicolay Timofeeff, Ph.D., Columbia, 1967, Associate Professor—quantitative methods, physical, pollution

Joseph E. Van Riper, Ph.D., Michigan, 1939, Emeritus Professor

PART-TIME STAFF:

John P. Kowalchyk, M.A., SUNY Binghamton, 1980, Adjunct Lecturer—resources and environmental management

Joseph M. Missavage, M.R.P., Cornell, 1954, Adjunct Associate Professor—urban planning

Richard F. Place, J.D., Union College, Albany, 1968, Adjunct Lecturer—legal aspects of planning.

Claudia E. Stallman, M.A., SUNY Binghamton, 1982, Adjunct Lecturer—cartography, automated cartography

TITLES OF THESES COMPLETED 7/1/82–6/30/83:

Master's:

Al-Dwaik, Aziz. "Forecasting Selected Social Program Needs for Kuwait: A Study of Planning for a Hypermigrating Economy," 1983.

Kiracofe, Bruce E. "Vegetation Effects on Lithological Discrimination Using Landsat Digital and Imagery Data," 1983.

Morris, Suzanne L. "Older Americans and Home Health Care: A Pilot Study of Johnson City, New York," 1982.

State University of New York at Buffalo

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1962 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 14 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 39 M.A. 11 Ph.D.
NOT IN RESIDENCE: 4 M.A. 0 Ph.D.

CHAIRMAN: James E. McConnell

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Director of Graduate Studies, Department of Geography, State University of New York at Buffalo, 415 Fronczak Hall, Amherst, New York 14260
Telephone (716) 636–2722

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers graduate training leading to the degrees of Masters of Arts and Doctor of Philosophy. The general areas of concentration supported by the department are: Urban and Regional Analysis, Geographic Information Systems and Computer Cartography, Physical Geography and Environmental Analysis, and International Trade.

Opportunity is provided for students interested in pursuing professional careers in government or business, and for those interested in teaching and research. Because many graduates of the M.A. program seek employment in transportation, land use, and natural resource planning and management, a number of courses and research activities emphasize the planning aspects of these fields. Training in the computer manipulation of geographic data sets supports this planning interest. Some of the M.A. programs, such as those in Cartography and International Trade, offer internships in business and government.

Many of the teaching and research activities of the department make heavy use of modern computer technology. The department maintains one of the largest libraries of geographically oriented software in the world, and in addition to standard, university-wide facilities, the department's Geographic Information Systems Laboratory is equipped with a minicomputer system which is used to operate a modern, high-speed interactive graphics and digitizing facility. Cartographic and photographic laboratories are available for instructional and research use and special laboratory facilities are also available for students working on various problems in physical geography and related environmental areas.

The M.A. program may be completed in three semesters. Entering students take a first-semester program which emphasizes the acquisition of a broad background in a variety of substantative areas of the discipline as well as the development of operational skills in such areas as computer applications and statistics.

During the third semester, each student must undertake a major research project demonstrating his or her technical competence and ability to integrate the various aspects of his or her area of specialization.

The departmental Ph.D. program admits superior students who desire in-depth research and technical training as a prelude to careers in education, government, and industry. Programs are designed on an individual basis and students are required to demonstrate acceptable levels of skill in areas such as mathematics, computer applications and statistics.

In addition, the Department, in cooperation with the School of Management, has a joint M.A.-M.B.A. degree option in International Business and World Trade. Students seeking admission to this option must apply to and be accepted by both academic units, and they must complete some 76 hours of graduate study. Upon completion, the M.A. in Geography, the I.T.C. certificate, and the M.B.A. degree will be awarded.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The university operates on the semester plan with additional Summer Sessions.

There are graduate assistantships awarded to qualified students and the department also attempts to provide summer support for qualified students. In addition, Graduate School Fellowships are available on a universitywide competitive basis.

Applicants must submit GRE scores (verbal and quantitative only), three letters of recommendation, transcripts, and a brief essay detailing their educational objectives and professional interests.

STAFF:

Athol D. Abrahams, Ph.D., Sydney, 1971, Associate Professor—fluvial geomorphology

David Brophy, Ph.D., Wisconsin, 1977, Assistant Professor—cartography

Hugh Calkins, Ph.D., Washington, 1972, Associate Professor—geographic information systems, land use, urban and regional planning

Edgar C. Conkling, Ph.D., Northwestern, 1962, Professor—international trade, land use theory, industrial location

Charles H. V. Ebert, Ph.D., North Carolina, 1957, Professor—pedology and soils geography, environmental impact studies, physical land use problems

Daniel A. Griffith, Ph.D., Toronto, 1978, Associate Professor—economic, spatial statistics, urban

John S. Haupert, Ph.D., Syracuse, 1955, Associate Professor—arid lands, agricultural, political, Middle East and North Africa

Richard S. Jarvis, Ph.D., Cambridge, 1975, Associate Professor and Associate Dean of Social Sciences—hydrology, biogeography, fluvial geomorphology

Barry Lentnek, Ph.D., Johns Hopkins, 1966, Associate Professor—regional analysis, development, Latin America

Ross D. MacKinnon, Ph.D., Northwestern, 1968, Professor and Dean of the Faculty of Social Sciences—transportation, quantitative, migration models

Duane F. Marble, Ph.D., Washington, 1959, Professor—geographic information systems, digital cartography, transportation

David M. Mark, Ph.D., Simon Fraser, 1977, Associate Professor—digital terrain models, computer mapping, fluvial geomorphology

James E. McConnell, Ph.D., Ohio State, 1969, Professor and Chairperson—international business and world trade, industrial location, regional development

Richard A. Mitchell, Ph.D., Iowa, 1964, Associate Professor—urban, Buffalo

David A. Smith, Ph.D., Michigan, 1959, Associate Professor—transportation, Western Europe

Michael Woldenberg, Ph.D., Columbia, 1968, Associate Professor—fluvial geomorphology, network theory, morphometry and dynamics of arteries, airways, and other trees

Two additional positions to be filled, pending availability of funds: international trade/industrial geography, and a cartographic technician.

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Erol, Cengiz. "The Location of Foreign Direct Investment and the Assessment of Political Risk," 1983. Mf., University Microfilms.

Lundberg, Carl Gustav. "A Language for the Investigation of the Role of Spatial Structure and Constraints on Spatial Choice and Activity Scheduling Behavior," 1983. Mf., University Microfilms.

Master's:

Adler, Marc. "Gemcor's Search for Foreign Markets; Why Israel Should Be a Primary Target," 1983.

Aronson, Peter. "A Comparative Analysis of Three Polygon Overlay Algorithms," 1983.

Blackman, Gillian H.M. "A Comparison of Air Passenger Traffic Flows to Resort Cities in the U.S.A. Before and After the 1978 Airline Deregulation Act," 1983.

Buonanno, Laurie. "Exporting and Non-Exporting in Monroe County," 1982.

Burnett, Maria. "A Profile of the Demarkus Corporation, Its Products and Markets," 1983.

Huang, Janie. "Expected Exports of Footwear Products from Taiwan to the United States," 1982.

Hutchinson, Michelle. "Intracorporate Pricing Policies of the Coated Abrasives Division of the Carborundum Company, Niagara Falls, New York," 1983.

Mix, Wende. "Algorithms for Computer Cartographic Line Symbolization," 1983.

Moreau, George H., Jr. "A Comparison of Soil Moisture and Temperature Differences Between No-Till and Conventional Tillage," 1983.

Rosiere, Peter B. "An Optimal Planning Model for the International Marketing of Flight-Inspection Systems," 1983.

Schofield, Peter. "Developments in U.S. Domestic Air Passenger Flows between Twenty-Five Cities Located in the Sunbelt and Core Regions from 1960 to 1980," 1983.

Shaw, Stuart. "Directory of International Trade Services Available to the Business Community of Western New York," 1983.

Trabold, Timothy F. "Basic Data-Handling Requirements of Geographic Information Systems," 1983.

Tramont, Susan. "Strategies for the Recoupment of a Protracted Default in Guyana," 1982.

Syracuse University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1931 GRADUATE PROGRAM FOUNDED: 1926

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 5 M.A. 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 16 M.A. 11 Ph.D.
NOT IN RESIDENCE: 2 M.A. 10 Ph.D.

CHAIRMAN: Robert G. Jensen

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. John Mercer, Chairman of Admissions Committee, Department of Geography, 343 H.B. Crouse Hall, Syracuse University, Syracuse, New York 13210
Telephone (315) 423-2605/2606

PROGRAMS AND RESEARCH FACILITIES: A theme that provides both continuity and identity to Geography at Syracuse is the study of place and places. Following the pioneer works on China and Latin America by Cressey and James, the regional tradition remains strong and is complemented by studies in a range of systematic fields. These works are neither arid nor abstract but blend a concern for theory with research on real places such as cities and other settlements, regions or countries, and upon the formative processes which give these places their nature and significance.

The prospective student will find opportunities to develop an array of research skills, and to study and implement research with faculty in the following specializations:

Historical Geography: The formation and alteration of regions; areal structures and systems; social geography; themes and interpretation in regional literature; emphasis on North America and Latin America.

Landscape and Place: Interpretations of landscapes as historical creations and as cultural symbols; explorations of concepts of place, especially from humanistic and cross-cultural perspectives.

Culture and Society: Processes of cultural differentiation; religion, language, sex roles, and other elements of the social order; exemplifications in South Asia and North America.

Political Geography: Analysis of political processes at urban, regional, and international scales; political regionalism in long-established states; local political activism in urban settings; the geography of urban administration.

Urban Geography: City structures, with emphasis on inner cities; comparative urbanization; urban housing; urban economic analysis and policy issues; urban planning; colonial settlements in Latin America.

Cartography and Geographic Information Systems: Computer-assisted cartography; cartographic communication and map design; mapping and geographic information systems policy.

Development: Regional structure of development in advanced and developing countries; industrial and agricultural development; technology, public policy, and regional change.

Natural Environment: Biogeography and the ecology of natural environments; human modification of the natural environment; urban physical environments and land use; environmental perception, policy, and planning.

Population Geography: Population change and resources; diet and nutrition in African societies; migration and demographic structure in Latin American colonial societies.

Regional Specialization: Much of the systematic work is carried out in regional contexts; most prominent at Syracuse are *North America, Latin America, South Asia, Soviet Union* and *Tropical Africa.* In recent years, for example, students have conducted foreign area research in the Philippines, the Soviet Union, East Africa, and Latin America. Furthermore, the Joint Oxford-Syracuse Project (JOSP), facilitated by Dellplain Assistantships, provides a long-term impetus for historical field research on *Latin American* population and colonial settlement patterns.

Within these clusters, students pursue individually designed programs, assisted by their advisory committee. The goal is to maintain and enhance an open intellectual environment with continuous interaction between graduate students and departmental faculty. In support of this, a number of distinguished scholars and professionals are brought to Syracuse each year for special lectures and seminar sessions. The department maintains a monograph series and a discussion paper series to which faculty and graduate students regularly contribute. A list of discussion papers, one of the most active series in the country, is available upon request.

The department is part of the Maxwell Graduate School of Citizenship and Public Affairs, which is especially strong in the area of public policy, both domestic and foreign, and has important links with the following interdisciplinary programs: Development Planning; Metropolitan Studies; Social Science; International Relations; American Studies; Foreign and Comparative Studies. A particularly notable opportunity is the joint Master's degree in Geography and Public Administration. The P.A. program at Syracuse is considered the leading program in the nation. This joint degree provides an outstanding training for a public sector career. (56 credit hours are required; information upon request.) Training in photogrammetry and remote sensing is provided in the Department of Forest Engineering in the SUNY College of Environmental Science and Forestry. Opportunities for graduate research and tutorials exist with the Urban Forest Research Project, U.S. Forest Service, on questions ranging from the role of vegetation in the urban ecosystem to land use and environmental policy alternatives for metropolitan regions.

Staff offices, classrooms, graduate student offices, an interactive terminal, and the Preston E. James Library are in an air-conditioned building at the center of campus, in easy reach of libraries and the computing center. The Syracuse University Cartographic Laboratory occupies spacious, environmentally controlled quarters in the adjacent Heroy Geology Building. The Laboratory, which includes a complete cartographic darkroom and student laboratory space, provides vital support to the department's teaching and research functions. Assistance for instructional and research purposes is provided by the full-time Staff Cartographer and his assistants. The Laboratory makes available to students its Hewlett-Packard minicomputer, plotter and digitizer.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. *Academic Plan:* The M.A. degree requires 30 credit hours, culminating in either a Master's thesis *or* two Master's papers, and a final oral examination; the choice of a thesis or a non-thesis degree is that of the student and will depend on the student's interests and academic objectives. Emphasis is placed on the acquisition of a range of research skills and methods that can be applied in a variety of career contexts and used in doctoral programs. The Ph.D. degree entails an additional 30 credit hours of courses both inside and outside the department, the writing of an approved dissertation proposal, the satisfactory completion of a combined written and oral qualifying examination, and finally, the successful completion of the doctoral dissertation. Students wishing to enter the Ph.D. program with a Master's degree in hand from another institution are expected to have formed a reasonably clear idea of dissertation plans to facilitate construction of a doctoral program of study. All applicants are encouraged to correspond with individual faculty regarding their special interest in any aspect of the Syracuse program in geography. *Admission:* The department does not subscribe to specific numerical criteria for evaluations of applications; minimum levels normally acceptable, however, for the undergraduate grade point average are about 3.0 (on a 4.0 basis) and for the GRE examinations a combined level of 1100 or above. Samples of written work may be submitted on a voluntary basis (these cannot be returned) to help the department evaluate applications on an individual basis. Applicants must submit transcripts, three letters of recommendation, and GRE scores on the Verbal, Quantitative, and Analytic Tests. The Advanced Geography GRE score is optional.

Financial Aid: Teaching assistantships, research assistantships, and various fellowships are available—applications to be completed by *February 1* and *October 1* for fall and spring admissions respectively. Annual stipends vary from about $5100 to $5900 plus remission of 9 to 12 hours of tuition per semester, making the total value of the awards worth about $10,000 to $12,000. Applicants should specify clearly any special regional or topical interests because certain forms of financial aid are so categorized. Applications are invited for a Cartographic Teaching Assistantship and for Dellplain Assistantships in Latin American Geography.

STAFF:

John A. Agnew, Ph.D., Ohio State, 1975, Associate Professor—political, social, urban; Chair, Social Science Program

David J. de Laubenfels, Ph.D., Illinois, 1953, Professor—biogeography, climatology, urban physical environments, circum-Pacific

Michael K. Heiman, Ph.D., UC, Berkeley, 1983, Assistant Professor—environmental policy, urban planning, resource conservation, United States, New York State

Robert G. Jensen, Ph.D., Washington, 1964, Professor—economic, regional development, Soviet Union

D. Michael Kirchoff, M.A., Wyoming, 1972, Staff Cartographer—cartographic design and production, cartographic management and planning

Donald W. Meinig, Ph.D., Washington, 1953, Maxwell Professor of Geography—historical, cultural and social, landscape interpretation, North America

John Mercer, Ph.D., McMaster, 1971, Associate Professor—urban, political, housing

Mark Stephen Monmonier, Ph.D., Pennsylvania State, 1969, Professor—cartography and mapping, geographic information systems, automated map design, mapping policy

James L. Newman, Ph.D., Minnesota, 1968, Associate Professor—population, diet-nutrition, Africa

John Rees, Ph.D., London School of Economics, 1977, Associate Professor—industrial, regional development, technology and public policy

David J. Robinson, Ph.D., London, 1967, Dellplain Professor of Latin American Geography—historical, urban, regional development, Latin America

David E. Sopher, Ph.D., UC, Berkeley, 1954, Professor—social, cultural (religions, languages, popular culture), South Asia

ADJUNCT FACULTY:

Rowan A. Rowntree, Ph.D., UC, Berkeley, 1973, Project Leader, Urban Forest Research—land use ecology, environmental policy

Ralph A. Sanders, Ph.D., Minnesota, 1974, Research Scientist, Urban Forest Research—urban, quantitative methods, North America

EMERITUS FACULTY:

Preston E. James, Ph.D., Clark, 1923, Maxwell Professor Emeritus of Geography

John H. Thompson, Ph.D., Washington, 1949, Professor Emeritus of Geography

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Lura, Russell P. "The Demographic Transition in Developing Areas: Population Change in Kericho District, Kenya, 1905 to 1969," 1982. Mf., University Microfilms.

Master's:

Drake, Martha. "Federally Subsidized Housing in Syracuse, N.Y. The Section 8 Program and Its Impact," 1982.

Gay, Robert. "Patronage and Urban Development: Towards a Political Interpretation of Social Change in Brazil," 1983.

Lindstrom, Eric A. "The Olmsted Legacy of Nineteenth-Century City Parks in Buffalo, New York," 1983.

Muñiz, Vicky. "Women's Struggle Against Poverty: Strategies for Survival of Market Women in Latin America—The Case of Cajamarca, Peru," 1982.

Petersen, Timothy R. "SYMAP: A Recent Historical Study Illustrating the Role of Institutional Communication in Computer-Assisted Cartography," 1982.

Temple University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1961 GRADUATE PROGRAM FOUNDED: 1969

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 8

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 2

CHAIRPERSON: Marilyn Silberfein

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Chairperson, Department of Geography, Temple University, Philadelphia, Pennsylvania 19122
Telephone (215) 787-7691

PROGRAMS AND RESEARCH FACILITIES: The objectives of the Master's program are to prepare students for further study and for jobs in government, industry, and planning. Throughout the program, the major emphasis is placed on training in research techniques and the development of analytical skills that can be applied to problem solving of a geographic nature. Specifically, the department offers core concentrations in data handling techniques and applied geography. The data handling concentration is designed to train the student in cartographic design, computer mapping and remote sensing techniques while the applied concentration provides training for the development of analytical skills used in solving problems related to store location, health care delivery systems, land use planning and environmental policy planning.

The department places some emphasis on the geography of urban areas and metropolitan regions, and the Philadelphia area is used as a laboratory for research. In addition, close ties are maintained with the Urban Studies Program and urban oriented faculty in other departments.

Basic requirements in addition to those prescribed by the Graduate School are (1) a final comprehensive examination and (2) successful completion of either eight courses plus a thesis, or eleven courses. Geography 406 (Geographic Methodology), 404 (Quantitative Methods in Geographical Research), and 464 (Field Methods) are required courses for all students. The full-time student normally takes three or four courses (9-14 semester hours) in a regular semester; the part-time student takes fewer than 9 semester hours. Thus, the full-time student who chooses the non-thesis option will normally need to spend a minimum of three full semesters in residence.

Graduate courses are offered in field methods, quantitative techniques, research design, remote sensing, cartography, computer techniques, regional analysis, land use, the physical environment, economic geography, urban geography, and social and cultural geography. In addition, practical experience is available through supervised teaching and internships.

The department is in Gladfelter Hall, a modern building housing the social science departments. Space and equipment for cartography, air photo interpretation, direct access to the computer, and graduate seminars are contained within the department. Some frequently-used map, book, and journal resources are in the department library; others are in nearby Paley Library. All graduate students are provided with a desk and office space readily accessible to faculty offices and department facilities.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester System. *Admission:* by Graduate School, based upon departmental evaluation of undergraduate transcript, two letters of recommendation, and GRE scores (verbal and quantitative). *Financial Aid:* Teaching assistantships and research assistantships, which carry tuition remission plus a stipend, are available. In addition, limited funds are available for tuition remission alone.

STAFF:

David J. Cuff, Ph.D., Pennsylvania State, 1972, Associate Professor—physical, cartography, energy

Roman A. Cybriwsky, Ph.D., Pennsylvania State, 1972, Associate Professor jointly with Urban Studies—urban, social, neighborhoods

Lane J. Johnson, Ph.D., Clark, 1960, Professor—urban, methodology, settlement systems

John W. Pawling, Ph.D., Michigan State, 1970, Associate Professor—physical, aerial photo interpretation, physical landscapes

George F. Rengert, Ph.D., North Carolina, 1971, Associate Professor—cultural, population, crime

Carolyn J. Ryan, Ph.D., Clark, 1964, Associate Professor—urban, economic, land use planning

Marilyn Silberfein, Ph.D., Syracuse, 1971, Associate Professor and Chairperson—cultural, Africa, environmental perception

John C. Western, Ph.D., UCLA, 1977, Assistant Professor—urban social, cultural, South Africa

William J. Young, Ph.D., Tennessee, 1971, Associate Professor—economic, market areas, health care, energy resources

University of Tennessee

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1914 GRADUATE PROGRAM FOUNDED: 1928

DEGREES OFFERED: M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 7 M.S., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 18 M.S. 10 Ph.D.
NOT IN RESIDENCE: 11 M.S. 5 Ph.D.

HEAD: Sidney R. Jumper

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Sidney R. Jumper, Department of Geography, University of Tennessee, Knoxville, Tennessee 37996
Telephone (615) 974-2418

PROGRAMS AND RESEARCH FACILITIES: *Programs:* The M.S. and Ph.D. programs permit graduate students to gain both broad and specialized competence and to pursue their own research interests. The department is particularly well qualified to direct studies in the geography of rural and non-metropolitan areas. Other strengths are systems-oriented physical geography; urban geography; geography of economic development; historical geography; and regional geography of the United States (especially the South and Appalachia).

The Master's program requires a minimum of 45 quarter hours. Most students should expect to write a thesis, for which they receive 9 hours of graduate credit, but a non-thesis option is available. Specific course requirements for the Doctoral program are determined by faculty committee in accordance with interests and needs of the student. Master's degree normally prerequisite to Ph.D. program. A minimum of 15 hours of collateral work, a reading knowledge of one foreign language, and competence in appropriate techniques are required. Written and oral comprehensive examination; oral final examination.

Research facilities: The department is convenient to libraries and a wide range of related departments. The University Computer Center is unusually accessible to students and offers excellent short courses and other aids for users. Cartographic, photographic, computer graphics, and remote sensing equipment and a map library are available in the department. The department is currently a partner to research contracts with the National Science Foundation, the Department of Energy, and the Oak Ridge National Laboratory, involving participation by and financial aid for graduate students. Departmental contacts with Tennessee Valley Authority and Oak Ridge National Laboratory have led directly to the employment of graduate students and degree recipients.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Tennessee operates on a quarter system. New graduate students may begin their work during any quarter, although the fall quarter is preferred. A "B" or higher undergraduate grade average is normally required for admission to a degree program, although admission in a probationary status may be granted to those with lower averages. Students seeking financial aid should file completed applications no later than February 15. Official transcripts of all previous college work, verbal and quantitative scores from the Graduate Record Examination, and at least three letters of recommendation are required.

Several forms of financial aid are available through the department. These include a number of teaching and other types of assistantships which carry a waiver of all tuition and maintenance fees in addition to a stipend. Several part-time research positions have been funded through a contract between the department and the Resource Analysis Group of Oak Ridge National Laboratory. Support is also normally available through research grants and contracts awarded to members of the faculty. University fellowships are available, and applications may be obtained by writing directly to the Vice Chancellor for Graduate Studies and Research.

STAFF:

Charles S. Aiken, Ph.D., Georgia, 1969, Professor—rural, agricultural, Anglo-America, U.S. South

Thomas L. Bell, Ph.D., Iowa, 1973, Professor and Assistant Dean for Research—urban, location theory, transportation, quantitative methods

T.J. Blasing, Ph.D., Wisconsin, 1975, Adjunct Assistant Professor—meteorology, climatology

Leonard W. Brinkman, Ph.D., Wisconsin, 1964, Associate Professor—historical, Anglo-America, Appalachia

James R. Carter, Ph.D., Georgia, 1973, Associate Professor—thematic cartography, computer graphics, climatology

Ronald A. Foresta, Ph.D., Rutgers, 1979, Assistant Professor—public policy and land use, urban systems modeling, resource management

Edwin H. Hammond, Ph.D., UC, Berkeley, 1951, Professor—land-surface systems, land forms, concepts and methods

Sidney R. Jumper, Ph.D., Tennessee, 1960, Professor and Head—utilization of resources, agricultural, economic

Robert G. Long, Ph.D., Northwestern, 1949, Professor Emeritus—Latin America, Asia, cartography

Clarence W. Minkel, Ph.D., Syracuse, 1960, Professor and Dean of Graduate School—Latin America, geography of development

Charles T. Paludan, Ph.D., Denver, 1975, Associate Professor—remote sensing, physical, cartography (assigned to U.T. Space Institute, Tullahoma, Tennessee)

Lydia Mihelic Pulsipher, Ph.D., Southern Illinois, 1977, Assistant Professor—historical, cultural, rural development, Caribbean

Bruce A. Ralston, Ph.D., Northwestern, 1976, Associate Professor—transportation, urban, quantitative methods, diffusion theory

John B. Rehder, Ph.D., Louisiana State, 1971, Associate Professor—cultural, rural settlement, remote sensing

Theodore H. Schmudde, Ph.D., Wisconsin, 1960, Professor—environmental impact of rural land uses, soils, recreational settlement, field methods

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Elshaygi, Gaafar H. "A Road Investment Model for the Sudan," 1983.* Mf., University Microfilms.

Smith, James Larry. "Historical Geography for the Southern Charcoal Iron Industry, 1800-1860," 1982.* Mf., University Microfilms.

Master's:

Bright, Edward A. "An Evaluation of Levee Protection of Agricultural Land in West Tennessee," 1982.* Mf., University Microfilms.

Theret, Gilles M. "Irrigation and Agricultural Development in the Crau of Southern France," 1983.* Mf., University Microfilms.

Williams, David K. "Rural Residential Subdivisions in Loudon County, Tennessee," 1982.* Mf., University Microfilms.

Texas A&M University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1968 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 2 M.S.

GRADUATE STUDENTS IN RESIDENCE: 11 M.S. 7 Ph.D.
NOT IN RESIDENCE: 1 M.S. 0 Ph.D.

HEAD: Brian W. Blouet

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Registrar,
Texas A&M University, College Station, Texas 77843
Telephone (409) 845-1031
For information about department: Head, Department of Geography
Telephone (409) 845-7141

PROGRAMS AND RESEARCH FACILITIES: The department is broadly interested in human and physical geography as exemplified by staff interests listed below. Associated departments in the College of Geosciences provide excellent opportunities for graduate level work in geology, meteorology, and oceanography, while other colleges of the University are able to support advanced study in a variety of natural resources, planning and social science areas.

Specialized interests, many of which are shared by the staff-at-large, include: analysis of man-land relationships with emphasis upon diffusion, technological innovation, and adaptation of social, political, and economic systems; historical geography of settlement and interlinked development of the Atlantic world, with a focus upon various parts of Europe, North America, Middle America and the Caribbean; the social construction of the everyday landscape; culture history of watercraft and their significance as agents of diffusion; cross-cultural and cross-environmental study of environmental perception and cognition; environmental decision-making and its effects upon the cultural landscape; the impact of natural hazards; availability of energy resources; plant migration and speciation; origins of domesticated plants and agricultural systems; soil development as an environmental indicator of landscape chronology; electron microscope investigations of weathering processes; factors affecting urban residential land value; urban environmental quality; spatial impact of residential property taxes; and both qualitative and quantitative methods in geography. The department maintains a Cartographic Service Unit as a research and teaching support facility. Services of the campus Computer Center and the Electron Microscopy Center are available to students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Texas A&M University is on the semester system. *Admission requirements:* Bachelor's degree and approval by Department Head, 1000 minimum on GRE. Research, teaching assistantships are available.

STAFF:

Daniel D. Arreola, Ph.D., UCLA, 1980, Assistant Professor—urban cultural, historical

George F. Bass, Ph.D., Pennsylvania, 1964, Professor—nautical archeology, Mediterranean culture history

Robert S. Bednarz, Ph.D., Chicago, 1975, Assistant Professor—economic, urban

Brian W. Blouet, Ph.D., Hull, 1964, Professor and Head—historical, settlement

Earl Cook, Ph.D., Washington, 1954, Professor—environmental and resource analysis

Earl R. Hoskins, Ph.D., Australian National University, 1968, Professor—mineral economics

Peter J. Hugill, Ph.D., Syracuse, 1977, Assistant Professor—social, historical, United States

Clarissa T. Kimber, Ph.D., Wisconsin, 1969, Professor—plant geography, Caribbean

James B. Kracht, Ph.D., Washington, 1971, Associate Professor—geographic education

Christopher Müller-Wille, M.A., Chicago, 1974, Lecturer/Production Supervisor—cartography

Campbell W. Pennington, Ph.D., UC, Berkeley, 1959, Professor—historical geography of the United States, Middle America

Charles Leroy Smith, Ph.D., Georgia, 1977, Lecturer—military geography, Soviet Union

Joseph Sonnenfeld, Ph.D., Johns Hopkins, 1957, Professor—behavioral geography, extreme environments

Frederick van Doorninck, Jr., Ph.D., Pennsylvania, 1967, Associate Professor—nautical archeology

Kenneth L. White, Ph.D., UC, Riverside, 1976, Assistant Professor—physical, soils, geomorphology, cartography

The University of Texas at Austin

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1949 GRADUATE PROGRAM FOUNDED: 1950

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 9 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 20 M.A. 8 Ph.D.
NOT IN RESIDENCE: 6 M.A. 2 Ph.D.

CHAIRMAN: Paul W. English

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Graduate Advisor, Department of Geography, The University of Texas at Austin, Austin, Texas 78712
Telephone (512) 471-5116, 5117

PROGRAMS AND RESEARCH FACILITIES: The graduate program is designed to train modern geographers in specialized areas of research and teaching. The Department places particular emphasis on the interrelationships among seven fields: physical, cultural, remote sensing, urban, political and economic geography, and environmental analysis. The program is oriented to research, although course work may be suggested to remedy academic deficiencies. Students are strongly encouraged to undertake supporting work in allied fields. Ordinarily, a graduate student, especially one at the Ph.D. level, is expected to integrate a thematic specialization with a regional interest. All incoming graduate students are strongly urged to select individual faculty advisors immediately.

University research centers with which the Department has strong and active ties include the Population Research Center, Water Resources Research Center, Bureau of Business Research, Bureau of Economic Geology, Center for Advanced Transportation Studies, the L. B. J. School of Public Affairs, Graduate Program in Energy and Mineral Resources, and Center for Energy Studies. Special area study programs include Latin America, Middle East, Asia, and Europe. Facilities available for student use include a computer center based on a CDC 6600 and a research cartography and remote sensing laboratory, map library, and computational equipment housed within the Department.

Every graduate student will undertake a course on issues and research in geography during his first year of residence. For the master's degree, students must complete 30 to 36 hours of course work with a minimum average grade of B. In addition, proficiency must be demonstrated in one foreign language or in quantitative analysis, and a thesis or two research papers must be written and approved. For the doctorate, students must complete a master's degree or the equivalent, demonstrate proficiency in two foreign languages or one foreign language and quantitative methods, and complete a course in history and philosophy and one in issues and research in geography (if not completed at the master's level). Students are admitted to candidacy upon the successful completion of examinations on geographic methodology and philosophy, the candidate's fields of special research, and dissertation proposal. The Ph.D. degree is granted upon the successful defense of the dissertation.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Semester System. *Admission Requirements:* (1) Admission to Graduate School, by application; (2) A score of 1100 (combined quantitative and verbal) on the Graduate Record Examination and an upper division GPA of 3.2, for Master's applicants; and a score of 1200 on the Graduate Record Examination and a graduate GPA of 3.5, for Ph.D. applicants. These should not necessarily be regarded as minimum scores for admission to the Department of Geography, since consideration is also given to an applicant's other academic achievements and to letters of recommendation. *Financial Aid:* Fellowships, Scholarships, Teaching Assistantships, Research Assistantships, Cartographic Assistantships, and Map Clerk positions.

STAFF:

Bharat Bhatt, Ph.D., Syracuse, 1979, Assistant Professor—social-cultural, comparative urban, South Asia

**Alfred W. Crosby, Jr., Ph.D., Boston, 1961, Professor*—environmental, ecological, medical (American Studies)

Christopher Shane Davies, Ph.D., Indiana, 1970, Associate Professor—urban

William E. Doolittle, Ph.D., Oklahoma, 1979, Assistant Professor—historical, cultural

Robin W. Doughty, Ph.D., UC, Berkeley, 1971, Associate Professor—cultural, historical ecology

**David J. Eaton, Ph.D., Johns Hopkins, 1977, Associate Professor*—environmental, urban (L.B.J. School of Public Affairs)

Paul Ward English, Ph.D., Wisconsin, 1965, Professor—cultural, Middle East

Kenneth E. Foote, Ph.D., Chicago, 1982, Assistant Professor—urban

George W. Hoffman, Ph.D., Michigan, 1950, Professor—economic, political, East-West Europe

Robert K. Holz, Ph.D., Michigan State, 1963, Professor—remote sensing, cartography, North Africa

**David L. Huff, Ph.D., Washington, 1960, Professor*—spatial design of market systems, consumer spatial behavior (School of Business)

J. Richard Jones, Ph.D., Boston, 1977, Assistant Professor—geomorphology, biogeography, quantitative methodology, coastal zone management

Terry G. Jordan, Ph.D., Wisconsin, 1965, Walter Prescott Webb Chair in History and Ideas, Professor—cultural-historical geography, Texas, Western Europe

**Lorrin G. Kennamer, Ph.D., George Peabody, 1952, Professor*—geographic education, Anglo-America (Dean, UT School of Education)

Ian R. Manners, D. Phil., Oxford, 1969, Associate Professor—Middle East, environmental resource management

James Nasuti, Ph.D., Hawaii, 1978, Assistant Professor—physical, climatology, Asia

Larry L. Patrick, Ph.D., Pittsburgh, 1977, Assistant Professor—Latin America, cultural

* Part-time

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Hatchett, Ronald Lester. "The Soviet Union and Eastern Europe: A Geopolitical Perspective," 1982. Mf., University Microfilms.

Master's:

Arena, Randall Ray. "Toward an Understanding of Acid Rain in Connection with the Development of Texas Lignite Resources," 1982.*

Barnett, Douglas Elmore. "Mohair in Texas: Livestock Experimentation on the Edwards Plateau," 1983.*

Boettcher, Walter Eric. "U.S. Reliance on Strategic Mineral Imports from South Africa," 1982.*

Eckstein, Kathleen Joan. "Spatial Perception and Behavior of Elderly People: Austin, Texas," 1982.*

Eldred, Cecilia Ann. "A Global Survey of Organic Agriculture," 1982.*

Lewis, Roger Steven. "A Comparative Study of Resident Housing Development in Georgetown and Round Rock, Texas," 1983.*

O'Connell, James Francis. "The Shoreline Variability Measurement Technique," 1983.*

Prewitt, Elton Roy. "Remote Sensing of Archaeological Remains in the Stockton Plateau Region of Texas: An Experiment in Site Recognition and Prediction," 1983.*

Weinstein, Eri Nattan. "A Quantitative Method for Testing Hypotheses of Barrier Island Formation," 1983.*

University of Toledo

DEPARTMENT OF GEOGRAPHY AND PLANNING

DATE FOUNDED: 1963 GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A.

GRANTED 7/1/82–6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 11
NOT IN RESIDENCE: 8

CHAIRMAN: William A. Muraco

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Eugene N. Franckowiak, Graduate Adviser, Department of Geography and Planning, University of Toledo, Toledo, Ohio 43606
Telephone (419) 537-2545

PROGRAMS AND RESEARCH FACILITIES: The Master of Arts program is designed to provide a background within the context of departmental faculty interests and related university offerings.

The master's program with geography specialization is designed to provide the opportunity for individualized programs in (a) economic geography; (b) urban geography; (c) environmental perception; (d) physical geography; (e) conservation and management of natural resources; and, (f) international/foreign area development.

The Master's program with planning specialization is designed individually to provide the opportunity for work in (a) urban planning and development; (b) regional planning and development; (c) environmental planning; and, (d) health planning. Appropriate agency internships are an integral part of the planning specialization.

Opportunities for instruction and research are enhanced by close association with graduate programs in economics, sociology and anthropology, psychology, public administration, geology, biology, and in some areas within the colleges of business administration, engineering, and law.

The department occupies newly renovated quarters including modern laboratories. Students have easy access to the facilities of the university libraries (with over one million volumes) and specialized facilities in law, map collections, and government documents. All students have easy access to the regional as well as the university and departmental computation services and to a centralized technological media center.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The program is on the quarter system. All students must complete a minimum of 45 hours of approved study including a nine-quarter hour thesis. There is a comprehensive examination for admittance to candidacy. Also required is either appropriate supervised teaching assistant experience or a planning internship. For most students, two academic years are needed to complete the program.

Applicants should hold a bachelor's degree in geography or a related field. Others are admitted who are willing to take additional appropriate work. Usually a student will present a GPA of at least 2.7 (4.0 scale) and must score satisfactorily on the aptitude Graduate Record Examination.

Graduate teaching assistantships, University and other fellowships, and remunerative half-time graduate planning internships are available to most qualified applicants.

STAFF:

Robert M. Basile, Ph.D., Ohio State, 1953, Professor Emeritus—physical especially climatology, micro-climatology, soils

Basil A. Collins, Ph.D., Michigan, 1973, Associate Professor—Middle East and North Africa, cultural, history of geographical thought

Walter T. Edelen, M.C.P., Georgia Institute of Technology, 1960, Adjunct Associate Professor—urban and regional planning and development, planning administration

S. Lewis Ellis, M.A., Toledo, 1973, Adjunct Assistant Professor—housing and urban redevelopment, urban planning

Byron E. Emery, Ph.D., Michigan, 1963, Professor—political, cultural, regional development planning

Rocco A. Ferraro, M.C.R.P., Ohio State, 1975, Adjunct Assistant Professor—urban and regional planning and administration

Eugene N. Franckowiak, Ph.D., Michigan, 1973, Professor—cartography, Latin America especially Andean America, environmental perception

Lawrence A. Hoffman, Ph.D., Johns Hopkins, 1950, Professor—economic especially development, East and South Asia especially India, historical urban

Donald W. Lewis, Ph.D., Ohio State, 1966, Professor—neighborhood revitalization, environmental planning and resource management, Anglo-America

William A. Muraco, Ph.D., Ohio State, 1971, Professor—economic especially location theory, urban, quantitative research methods

Eugene H. Naujock, M.S., Wisconsin-Milwaukee, 1969, Adjunct Assistant Professor—urban planning and administration, census data analysis

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's

Al-Angary, Abdurrahman M. "Farmers' Perception of Environmental, Economic, and Social Change in Al-Hassa Oases District, Saudi Arabia, 1971-1981," 1982.*

Boyer, Richard Ralph. "An Exploratory Study of Spatial Diffusion Concepts: An Application of Centrographic Technique to the Study of the Spatial Distribution of a Family Practitioner's Patient Population," 1982.*

Close, Geoffrey Lyman. "Highway Investment and Economic Development in Brazil, 1955-1975," 1982.*

Majewski, Nancy C. "Perception as a Factor of Health Care Utilization in Washington County, Ohio," 1982.*

Towson State University

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL PLANNING

DATE FOUNDED: 1955 GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 10

GRADUATE STUDENTS IN RESIDENCE: 5
NOT IN RESIDENCE: 35

CHAIRPERSON: James E. DiLisio

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Wayne McKim, Graduate Coordinator, Department of Geography and Environmental Planning, Towson State University, Towson, Maryland 21204
Telephone (301) 321-2966

PROGRAMS AND RESEARCH FACILITIES: The program is designed to provide a broad mastery of the field through a balanced curriculum of topical and regional studies with research experiences. Requirements for the M.A. are the successful completion of 30 semester hours with thesis (36 semester hours without thesis), and a reading knowledge of a modern foreign language or competency in statistical techniques. Two major tracks are available in the program: I. Geography and II. Planning.

The University is situated in the suburban area north of Baltimore. Libraries and research facilities of several large universities and government agencies of Baltimore, Washington, and Philadelphia are within a short distance of the campus. An ample collection of the principal geographical books and periodicals is contained in the library on campus.

An air-conditioned building houses the department and its special facilities which include well-equipped cartography/air photo laboratories, map library, department library, electronic calculators, and audio-visual materials. Computer telecommunications terminals in the department are linked to a UNIVAC 1106 on campus.

The Department has operated a successful internship program since 1970. Internships are available with several private firms and public agencies at the federal, state, and county levels.

Papers in Geography, a discussion paper series, is published by the department and graduate student input is encouraged.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Admission is based on evaluation of individual applicant's experience, transcript of previous course work, and personal references. Conditional admission to a qualifying program may be granted for those lacking prerequisites. Financial aid includes Graduate Assistantships and paid work within the department.

FULL-TIME STAFF:

Armando da Silva, Ph.D., Hawaii, 1977, Assistant Professor—biogeography, physical, archeoastronomy

Norman R. Diffenderfer, M.A., Nebraska, 1943, Associate Professor—Anglo-America, soils and plant geography

James E. DiLisio, Ph.D., Oklahoma, 1975, Associate Professor—economic, quantitative, energy

Kenneth Haddock, Ph.D., Michigan State, 1975, Assistant Professor—medical, Latin America

Hlib S. Hayuk, M.A., Wisconsin—Milwaukee, 1967, Assistant Professor—Soviet Union, population, military

Wayne L. McKim, Ph.D., Northwestern, 1974, Associate Professor—Africa, cultural

Donald Outen, M.R.P., Johns Hopkins, 1975, A.I.C.P., Instructor—land use, urban planning

Ralph C. Scott, Ph.D., Georgia, 1972, Assistant Professor—meteorology, climatology, geomorphology

Marshall L. Stevenson, M.A., East Carolina, 1968, Assistant Professor—cartography

PART-TIME STAFF:

John Dillon, Baltimore County Office of Planning and Zoning—principles of zoning

David Firman, Professor Emeritus—Asia, environmental studies

Walter H. Kratzmeier, Baltimore County Office of Planning and Zoning—principles of planning, urban design

Robert Marriott, Baltimore County Office of Planning and Zoning—planning implementation, comprehensive planning

Curtis Martin, Professor Emeritus—remote sensing, political, Europe, urban

Peter M. Zimmerman, Attorney at Law—environmental law

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Schupple, Henry, Jr. "Physical Influences on the Morphology of Second-Order Drainage Basins in Northern Virginia's Blue Ridge Mountains," 1983.

University of Utah

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1947 GRADUATE PROGRAM FOUNDED: 1948

DEGREES OFFERED: M.A., M.S., Ph.D.

GRANTED 7/1/82-6/30/83: 7 Masters, 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 17 Masters 8 Ph.D.
NOT IN RESIDENCE: 3 Masters 1 Ph.D.

CHAIRMAN: Roger M. McCoy

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chung-Myun Lee, Director of Graduate Studies, Department of Geography, University of Utah, Salt Lake City, Utah 84112
Telephone (801) 581-8218

PROGRAMS AND RESEARCH FACILITIES: The Department offers programs leading to Ph.D., M.A., or M.S. degrees. The Master's degree usually requires a thesis, but with departmental approval a non-thesis option may be selected. The Department offers a broad program in systematic and regional geography, techniques, and methodology. Areas of specialization are: Quaternary studies involving geomorphology and climatology applied to paleoenvironmental analysis; urban-economic studies; and natural resources analysis. Strong ties are maintained with allied departments within the University and with many local, state, and federal planning and resource management agencies. The Department faculty cooperate in University-wide regional programs.

Cartographic facilities include a large laboratory and complete reproduction facilities, with a large copy camera and darkroom. The Department's Geographic Research Laboratories have various funded projects mapping land use and resources. Equipment includes a density slicer, map and image digitizers, minicomputer, image compositor, and zoom transfer scope.

The Department places emphasis on field and laboratory techniques and quantitative methods. A growing library of computer mapping and statistical programs is maintained in the Department and at the University Computer Center.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Quarter system. Candidates must be accepted by the University's Graduate School. A 3.00 G.P.A. is required for acceptance. Candidates should have three letters of recommendation and GRE scores sent directly to the Graduate Studies Committee. There are several teaching assistantships ranging in stipend from $4000 to $4500, plus a waiver of tuition. Research assistantships, part-time project work, and summer employment are available. Applications for graduate school and for assistantships are due February 1. Internships may be arranged with federal, state, and local public agencies.

FACULTY:

Donald R. Currey, Ph.D., Kansas, 1969, Associate Professor—geomorphology and Quaternary stratigraphy of mountain and desert environments in the western U.S.

Phillip C. Emmi, Ph.D., North Carolina, Chapel Hill, 1979, Assistant Professor—research and analytical methods, urban allocation models, housing and community development, land use planning and environmental impact analysis

Albert L. Fisher, Ph.D., Johns Hopkins, 1954, Professor—comparative welfare systems, residential patterns of elites, applied political geography, Europe

Morris E. Johnson, M.C.P., MIT, 1951, Adjunct Professor—visual quality of urban environments, process for comprehensive planning, physical, social impact on development

Jeanne Kay, Ph.D., Wisconsin-Madison, 1977, Assistant Professor—historical changes in natural environments, wilderness analysis

Paul A. Kay, Ph.D., Wisconsin-Madison, 1977, Assistant Professor—climatology, Holocene environments and climates, dendrochronology

James W. King, Ph.D., Northwestern, 1964, Associate Professor—cultural and economic geography in Africa and the Middle East

Thomas M. Kontuly, Ph.D., Pennsylvania, 1978, Assistant Professor—population geography, migration analysis, regional development, economic and urban geography

Chung-Myun Lee, Ph.D., Michigan, 1961, Professor—land use analysis with the use of aerial photographs and LANDSAT, population migration and redistribution problems, East and Southeast Asia

Roger M. McCoy, Ph.D., Kansas, 1967, Professor and Chairman— remote sensing applications to hydrology, fluvial geomorphology, and resource mapping

Thomas H. Patterson, M.S., Hawaii, 1982, Cartographer/Lab Manager—cartographic techniques, design cartography, field mapping

Merrill K. Ridd, Ph.D., Northwestern, 1963, Professor—remote sensing and applied geomorphology in resource mapping and land use planning, cartography

ADJUNCT FACULTY AND PROFESSORS EMERITI:

Gene Carr, M.C.P., Ohio State, 1966, Adjunct Professor—urban planning

Richard D. Chong, Master of Architecture, UCLA, 1974, Adjunct Associate Professor—urban planning and design

Vasyl M. Gvosdetsky, Ph.D., Kiev, 1936, Professor Emeritus—soils, physiography, Soviet Union

H. Bowman Hawkes, Ph.D., Ohio State, 1947, Professor Emeritus—climatology, physiography, geographic education, Europe

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Master's:

Brown, Craig J. "Timber Resource Allocation within the Wasatch Mountains," 1982.*

Buchanan, Robert M. "Agricultural Land Conversion in the Southwest Salt Lake Valley, 1950-1980," 1982.*

Gillette, Clyde F. "A Revision of the 'Megalithic' *Colias alexandra* Complex *(Pieridae-Rhopaloceria-Lepidopteria)* with the Discovery of a Newly Recognized Species of Colias in Utah," 1983.*

Han, Sook-ja. "Changes around Salt Lake City Using Landsat Digital Data: A Case Study of Sandy," 1982.*

Miller, Raymond. "The Design of an Efficient Nighttime Transit System for Salt Lake County, Utah," 1983.*

Speckman, Zohreh. "Neighborhood Activism and Its Effect on Locational Decision-Making in Salt Lake City, 1978-1980," 1983.*

Wilde, Brent B. "Alternative Land Use Policies for the East-Central Neighborhood of Salt Lake City, Utah," 1982.*

University of Vermont

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1965   GRADUATE PROGRAM FOUNDED: 1970

DEGREES OFFERED: M.A. and M.A.T.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 8
NOT IN RESIDENCE: 9

CHAIRMAN: Canute VanderMeer

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Program Coordinator, Department of Geography, University of Vermont, Burlington, Vermont 05405-0114
Telephone (802) 656-3060

PROGRAMS AND RESEARCH FACILITIES: The M.A. degree is general in character rather than specialized and requires thirty graduate credits, including six devoted to a thesis. Faculty interests span most systematic aspects of geography. Technique competence includes cartography, remote sensing, and quantitative methods. Regional interests and field experience are virtually world-wide in scope. Vermont, the Lake Champlain Basin, and adjacent areas in Canada and Northern New England provide diverse settings for interesting field work. Among the facilities are a library with a fine collection on Vermont and Canada; a map library; a DEC 2060 computer system with plotter and graphics terminal; and well-equipped cartographic and remote sensing laboratories.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system plus summer sessions. Admission requirements are detailed in the Graduate College Bulletin. Applicants should present twelve semester hours or their equivalent in geography and supporting courses in related fields. Persons applying for financial assistance as well as admission should have applications with all supporting materials including GRE scores in the Graduate College by March 1. Some New England students from outside Vermont may be eligible for in-state tuition rates. The Department has six Graduate Teaching Fellowships. The Graduate College has fellowships and scholarships.

STAFF:

H. Gardiner Barnum, Ph.D., Chicago, 1965, Associate Professor—regional and historical geography of Europe, urban, cartography

Andrew R. Bodman, Ph.D., Ohio State, 1978, Assistant Professor—economic, urban, planning, quantitative methods

Daniel W. Gade, Ph.D., Wisconsin, 1967, Professor—cultural, biogeography, South America, Western Mediterranean

William G. Howland, Ph.D. candidate, McGill, Visiting Assistant Professor—remote sensing, physical, northern lands

Aulis Lind, Ph.D., Wisconsin, 1968, Associate Professor—physical, remote sensing of environment, water resources

Harold A. Meeks, Ph.D., Minnesota, 1964, Associate Professor—physical, rural land use, U.S.S.R., United States, New England

Edward J. Miles, Ph.D., Syracuse, 1958, Professor—political, Canada, Africa, historical geography of the United States and Canada

Charles C. Ryerson, Ph.D., Southern Illinois, 1977, Assistant Professor—applied climatology, physical, computer cartography

Canute VanderMeer, Ph.D., Michigan, 1962, Professor—agricultural, China, Southeast Asia

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Bertolas, Randy J. "Slate: A Geographic Study with Emphasis on Vermont," 1982.*

University of Washington

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1935 GRADUATE PROGRAM FOUNDED: 1935

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 9 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 32 M.A. 22 Ph.D.
NOT IN RESIDENCE: 1 M.A. 12 Ph.D.

CHAIRMAN: Morgan D. Thomas

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor William B. Beyers, Graduate Advisor, Department of Geography, University of Washington, Seattle, Washington 98195
Telephone (206) 543-5843

PROGRAMS AND RESEARCH FACILITIES: Individual graduate programs are built around seven research specialties:

Social geography: population and welfare: The study of human population and their settlements, including their size and kind, by ethnicity and race, and by level of well-being and health.

Urban geography/urban studies: The study of the economic base of cities, their internal social and economic structure, including transportation, urban facilities location, medical care, and aspects of social justice and the city.

Regional development and industrial geography: Regional development theory, regional policies, regional economic analysis, industrial location, and linkage studies, location theory and modeling, interregional transfer of technology, corporate spatial behavior and the geography of multinational firms.

Trade and transportation: Flows, network and traffic patterns, practical aspects of operating transportation systems, models of trade and transportation activities.

Environment and natural resource management: Physical processes affecting the landscape, interaction of human activities with the physical environment, land use, energy, agriculture, recreation, environmental planning, impact assessment, natural hazards, environmental quality, water use, methods of resource analysis, public policy analysis, multiple-objective decision-making techniques.

Cartography: Cartographic design and production, automated mapping, techniques of spatial analysis, and graphic communication theory.

The departmental curriculum is flexible, and programs of study are individually arranged to suit the needs of the students. A thesis is required in the M.A. program, which may be devoted to a single topic or may be composed of several high-quality research papers.

The university library contains four million volumes and maintains a separate Edward L. Ullman Geography Library with subscriptions to 500 periodicals and an extensive collection of atlases. Departmental facilities include a spatial analysis laboratory containing several interactive graphics terminals, a micro-computer system, digitizer, and plotter, all tied into the university's CDC CYBER 170/750 main research computer and a VAX 11/780 computer which is devoted to instructional use. There is also a fully-equipped cartography lab, two darkrooms, and extensive cartographic equipment located in the department.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The university operates on a quarter system. Admission to the Graduate School requires a minimum gradepoint average of B (3.0 on a 4.0 scale) during the junior and senior years. Students holding the Master's degree must meet this minimum scholastic requirement, but should also have achieved a higher than B average for graduate studies completed. Applicants must take the GRE. Information for prospective graduate students may be obtained by writing to the Graduate Program Advisor.

THE FACULTY

William B. Beyers, Ph.D., Washington, 1967, Professor (also Graduate Program Advisor)—regional science, economic geography, location theory, regional analysis, environment of the Pacific Northwest

Kuei-sheng Chang, Ph.D., Michigan, 1955, Associate Professor (also School of International Studies)—economic geography of China, historical geography of exploration, Third World development

Douglas K. Fleming, Ph.D., Washington, 1965, Associate Professor—transportation geography (especially ocean and air), regional organization of Western Europe

David C. Hodge, Ph.D., Pennsylvania State, 1975, Associate Professor—urban social and political geography, mass transportation, spatial equity, research methods

W. A. Douglas Jackson, Ph.D., Maryland, 1953, Professor (also School of International Studies)—political systems, nature and culture, Soviet Union, Canada

George H. Kakiuchi, Ph.D., Michigan, 1957, Associate Professor (also School of International Studies)—Japan, agriculture, internal migration, regional geography

Jaime C. Kooser, Ph.D., UC Berkeley, 1980, Assistant Professor—public facility location theory, time geography, social geography, energy policy, resource development

Gunter Krumme, Ph.D., Washington, 1966, Professor (also Undergraduate Advisor)—economic geography, regional economics, location theory, organization and decision theory, European regional development and planning

Marion E. Marts, Ph.D., Northwestern, 1950, Professor (also University Ombudsman)—water resources, conservation, resource policy

Jonathan D. Mayer, Ph.D., Michigan, 1977, Associate Professor—urban geography (including historical), transportation, medical geography, geographic philosophy and methods

Richard L. Morrill, Ph.D., Washington, 1959, Professor—spatial organization, migration, diffusion and population, regional planning and development, inequality

John C. Sherman, Ph.D., Washington, 1947, Professor—cartography, graphics communication, remote sensing

Morgan D. Thomas, Ph.D., Queen's (Belfast), 1954, Professor (also Department Chairman)—regional economics, regional planning and development, technical innovation

Joseph Velikonja, Ph.D., University of Rome (Italy), 1948, Professor (also School of International Studies)—social and political geography, international migration, immigrants in America, Eastern Europe

Carl E. Youngmann, Ph.D., Kansas, 1972, Associate Professor—cartography, computer graphics, population

Craig ZumBrunnen, Ph.D., UC, Berkeley, 1973, Associate Professor (also School of International Studies)—natural resource management and conservation, environmental quality, methods of resource analysis, physical, Soviet Union

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Downing, Barbara Jeanne. "Nonmetropolitan Migration in the Context of Cultural Change and Social Structure," 1982. Mf., University Microfilms.

Werner, Lance Douglas. "Socio-Economic Development and the Growth of Pre-School Services: A Geography of Socialist Construction in Peripheral Soviet Republics, 1959-70," 1983. Mf., University Microfilms.

Master's:

Banerjee, Anjan. "Structural Comparison of Three Regional Economies: A Case Study of Georgia, West Virginia, and Washington," 1983. Mf., University Microfilms.

Fullerton, Janet Elda. "Transit and Settlement in Seattle, 1871-1941," 1982. Mf., University Microfilms.

Kohlenberg, Elizabeth Rush Gottlieb. "Geography and the Demand for Mental Health Services," 1982. Mf., University Microfilms.

Lund, Jay Richard. "Living Abroad as an Element of an Urban Landscape," 1982. Mf., University Microfilms.

McFaul, Karen Louise. "Municipal Annexation: A Study of the Urban Political Geography of King County, Washington, 1970-1980," 1982. Mf., University Microfilms.

Patterson, Gene Edward. "The Effects of Oil-Field Pollution on Residents in the Tulsa, Oklahoma, Area," 1982. Mf., University Microfilms.

Pefferman, Judith. "The Evolution of Land Transportation in Pre-Modern Japan," 1982. Mf., University Microfilms.

Toops, Stanley Winfield. "The Political Integration of Yunnan," 1982. Mf., University Microfilms.

Wayne State University

DEPARTMENT OF GEOGRAPHY AND URBAN PLANNING

DATE FOUNDED: 1921 GRADUATE PROGRAM FOUNDED: 1932

DEGREES OFFERED: M.A. in Geography and Master of Urban Planning

GRANTED 7/1/82-6/30/83: 4 M.A., 17 M.U.P.

GRADUATE STUDENTS IN RESIDENCE: 10 Geography 30 Urban Planning
NOT IN RESIDENCE: 17 Geography 23 Urban Planning

CHAIRPERSON: Robert D. Swartz

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairperson, Graduate Committee, Department of Geography and Urban Planning, Wayne State University, 225 State Hall, Detroit, Michigan 48202
Telephone (313) 577-2701

PROGRAMS AND RESEARCH FACILITIES: The graduate program in geography emphasizes the education of professionals with a broad foundation in the discipline, which will enable them to undertake successfully careers in research, teaching, and community service. Instruction is offered leading to the degree of Master of Arts by thesis or essay option. The core curriculum is followed by specialized work with emphasis on gaining practical experience while the student learns. The department's internship program allows limited credit to be earned for on-the-job training/experience. Applied geographic work in retail location analysis, land use planning and cartography is typical of internship positions. Details for the urban planning program are available from the Director, Urban Planning Program, Department of Geography and Urban Planning, at the address above.

Of many university-wide facilities, the following deserve special mention: the university and nearby public libraries which together contain more than 3.5 million volumes and 150,000 maps with outstanding special collections in urban affairs, ethnic studies, folklore, Eastern Europe, the Soviet Union, the History of Technology, and the Great Lakes region; the centers for Afro-American Studies, Black Studies, Urban Studies, Soviet and East European Studies, Instructional Technology, Business Research, the Merrill-Palmer Institute, and the Institute of Gerontology.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:

To be admitted to the Department, an applicant should have an undergraduate major in geography or its equivalent, but intellectual ability, professional potential, and an abiding interest in geography are the main criteria for admission. Each application is judged individually and each program is tailored to the needs and desires of the individual student.

Several types of financial aid in the form of assistantships, fellowships, scholarships, work-study internships, and loans are available from the Department or the Graduate School. Departmental awards usually carry a minimum grant of $4100 and a waiver of tuition fees. Applications for financial aid for the 1984-85 academic year should be submitted before March 1, 1984.

STAFF:

Fred E. Dohrs, Ph.D., Northwestern, 1950, Professor Emeritus—political, Soviet Union, Eastern Europe

Robert J. Goodman, Ph.D., Northwestern, 1948, Professor—visual techniques, historical

George J. Honzatko, Ph.D., Michigan, 1956, Professor and Director of the Urban Planning Program—demographic/economic base studies, urban finance, growth management

Eugene D. Perle, Ph.D., Chicago, 1964, Associate Professor—transportation, quantitative methods, regional development

Gary J. Sands, Ph.D., Cornell, 1973, Associate Professor—planning and decision theory, housing, community development

Robert Sinclair, Ph.D., Northwestern, 1955, Professor—economic-urban, Europe

Robert D. Swartz, Ph.D., Northwestern, 1967, Associate Professor and Chairperson—marketing, urban

Bryan Thompson, Ph.D., Clark, 1971, Associate Professor—ethnic settlement, urban

PART-TIME STAFF:

Ernando Minghine, M.A., Wayne State, 1970—world regional and physical

John R. Ponton, Jr., M.A., British Columbia, 1972—physical, coastal environmental; Black & Veatch (consulting engineers)

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:

Randall, Harvey Cass. "Flood Control in the California Delta," 1983.

Reischmann, Rosemarie. "The Impact of the Recent Crisis upon the Structure in Spatial Organization of the United States' Automobile Industry," 1982.

West Virginia University

DEPARTMENT OF GEOLOGY AND GEOGRAPHY

GRADUATE PROGRAM FOUNDED: 1971

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 8
NOT IN RESIDENCE: 1

CHAIRMAN FOR GEOGRAPHY: Graham D. Rowles

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Robert Q. Hanham, Department of Geology and Geography, West Virginia University, 316 White Hall, Morgantown, West Virginia 26506
Telephone (304) 293-5603

PROGRAMS AND RESEARCH FACILITIES: Graduate study in geography at West Virginia University offers the student a unique opportunity to tailor an interdisciplinary program of study to his or her interests, particularly in the areas of energy and resource management, environmental and regional planning, regional modeling, community development, and the geography of aging. Skill development is offered in spatial quantitative analysis, computer applications, and cartography. Research strengths of the university include energy and mineral economics, regional science, gerontology, and geology. Students are strongly encouraged to develop a graduate program based on the strengths of WVU. The program is structured to allow maximum flexibility in choosing courses from a variety of alternatives and undertaking research with supporting departments.

Departmental facilities include a large library of maps and air photos, darkroom and photographic equipment, plus access to data processing and computer graphics facilities. Office and research space is provided for graduate students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: West Virginia is on a semester system beginning in mid-August.

A bachelor's degree from an accredited college or university with a minimum grade point average of 2.75 is required, and 3.0 is recommended for financial aid. Students may be required to supply scores from the GRE. Graduate teaching and research assistantships are available on a competitive basis. Assistantships include full tuition waiver.

FULL-TIME AND PART-TIME STAFF:

Frank J. Calzonetti, Ph.D., Oklahoma, 1978, Associate Professor—energy, spatial modeling, technology assessment, resources

Gregory A. Elmes, Ph.D., Pennsylvania State, 1979, Assistant Professor—spatial modeling, research methods, transportation, quantitative methods

Robert Q. Hanham, Ph.D., Ohio State, 1973, Associate Professor—urban and regional systems, economic development, employment studies, quantitative methods

Steven Kite, Ph.D., Wisconsin, 1983, Assistant Professor—geomorphology

Richard S. Little, Ph.D., Syracuse, 1961, Associate Professor—regional development, census geography, computer graphics, self-sufficient communities

Kenneth C. Martis, Ph.D., Michigan, 1976, Associate Professor—political, resource and environmental policy, historical geography

Graham Rowles, Ph.D., Clark, 1976, Associate Professor—geography of the elderly, social, urban geography and planning, environmental cognition, qualitative methods

Ruth Anderson Rowles, M.S., Wisconsin, 1976, Assistant Professor (part-time)—cartography

Barry Solomon, Ph.D., Indiana, 1983, Visiting Assistant Professor of Geography and Mineral Economics—energy policy, resource planning, economic, quantitative methods

AFFILIATED STAFF:

Robert E. Behling, Ph.D., Ohio State, 1971, Associate Professor of Geology—glacial geology, geomorphology, weathering in cold desert regions of Antarctica

Alan C. Donaldson, Ph.D., Pennsylvania State, 1959, Professor of Geology and Department Chairman—sedimentology, stratigraphy

Michael E. Hohn, Ph.D., Indiana, 1976, Adjunct Assistant Professor of Geology—geostatistics and multivariate analysis

William H. Miernyk, Ph.D., Harvard, 1953, Benedum Professor of Economics—regional economics

Dennis A. Poluga, M.A., Ohio State, 1968, Adjunct Assistant Professor of Geography and Director, Region VI Planning and Development Council, West Virginia—regional planning

Henry W. Rauch, Ph.D., Pennsylvania State, 1972, Associate Professor of Geology—hydrogeology and water quality, environmental geology

Adam Z. Rose, Ph.D., Cornell, 1974, Associate Professor and Chairman, Department of Mineral Economics—resource economics, energy economics, regional science

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Buss, Nicholas. "Energy Trade and State Development: The Case of West Virginia," 1983.

Duckson, Linda. "The Relationship between Formal Services and Natural Support Systems for the Elderly: A Geographical Analysis," 1983.

Ice, Pat. "Impact of Loss of Spouse on the Activity Patterns of Rural Elderly Widows," 1983.

Mallik, Bharati. "Comparative Cost-Analysis of Recycling Fly Ash in Various West Virginia Locations," 1983.

Western Illinois University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1917 GRADUATE PROGRAM FOUNDED: 1947

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 20
NOT IN RESIDENCE: 4

CHAIRMAN: A. Richard Longwell

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Arlin D. Fentem, Chairman, Graduate Committee, Department of Geography, Western Illinois University, Macomb, Illinois 61455
Telephone (309) 298-1646 or 1648

PROGRAMS AND RESEARCH FACILITIES: The department offers three options within its M.A. degree program: thesis; non-thesis; and development plan or project report. All programs share a balanced core of experience in four areas: theory and methodology, physical, cultural, and regional. Beyond this, candidates may choose to concentrate in resource and regional analysis (including cartography and remote sensing), physical, cultural and regional geography, or regional and rural planning. The thesis option is intended for those who plan to enter a doctoral program and/or do serious research; the non-thesis option provides a broad background in geography verified by comprehensive examinations in six areas following course work; the development plan report is designed for those who intend to enter the planning field. The report, followed by an oral examination, is ordinarily developed as part of an internship assignment with a planning agency.

Department facilities are housed in Tillman Hall and include: the University's Map Library and reading room with 140,000 maps, 14,000 air photos, and 2,500 atlases; office space for all full-time graduate students; cartography laboratories with copy cameras, enlarger-reducers, graphic arts darkroom, headliner and photo typesetter, and programs for computer mapping; remote sensing laboratory with zoom transfer scope, Bausch and Lomb interpretation system, portable stereo contour plotter, a Remote (Landsat) Imagery Processing System with Spectral Data Corp. microcomputer, disk drives, 256 × 240 pixel color video system and IDM prism printer with color graphics, dual stereoscope, mirror stereoscopes and imagery light tables; a well-equipped earth materials analysis lab with access to an x-ray diffractor, spectroscope, and other instrumentation; meteorology and microclimatology facilities including weather stations, an Alden weather chart recorder, and a Sperry weather radar unit with DENRAD colorizer; computer facilities that include a keypunch, a computer terminal, a continuous mode Numonics electronic digitizer, and an IBM microcomputer with line printer and video monitor. Supporting university facilities include a new million-volume library with computer bibliographic search and PLATO; IBM 370/155 computer with 2 million bytes storage, telecommunication links to a CDC Cyber 72 computer, Data General Eclipse minicomputer, and a CALCOMP plotter. The editorial office of the *Journal of Geography* and the central office of the National Council for Geographic Education are accommodated by the department.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Degree programs require 32 semester hours of credit except that concentration in regional and rural planning requires 38 hours. Western Illinois University operates on a semester system beginning late August and ending mid-May. Eight- and four-week summer sessions are offered simultaneously. Admission requires that the applicant have a Bachelor's degree from an accredited institution and an overall grade-point average of at least 2.5 (on a 4-point scale), or a grade-point of at least 2.75 for the last two years of undergraduate work. Applicants should have completed at least 24 semester hours of geography. The Graduate Record Examination is required.

Department graduate teaching, cartographic and editorial assistantships are awarded to 15 students each year, and an additional four to six students, usually in the second year of graduate study, are supported by public planning agencies in cooperation with the Institute for Regional Rural and Community Studies mentioned above. Assistants receive monthly stipends and their tuition charges are waived.

FULL-TIME AND PART-TIME STAFF:

John J. Alford, Ph.D., Kansas, 1968, Professor—paleogeography, climatology

John V. Bergen, Ph.D., Indiana, 1964, Professor—map curator, human, Anglo-America, air photo

John F. Blauvelt, M.S., Colorado, 1962, Assistant Professor—cultural, Middle East

Arlin D. Fentem, Ph.D., Wisconsin, 1974, Associate Professor—agriculture, Anglo-America, thematic cartography

Robert E. Gabler, Ed.D., Columbia, 1957, Professor—physical, geography in education, Europe

David W. Ganyard, Ph.D., Ohio State, 1967, Associate Professor—economic, historical, Africa

Donald W. Griffin, Ph.D., Clark, 1963, Professor—urban geography, regional planning, rural development

Fred E. Kohler, Ph.D., Ohio State, 1971, Associate Professor—water resources, climatology, meteorology

Lawrence T. Lewis, Ph.D., Clark, 1971, Associate Professor—quantitative methods, urban

A. Richard Longwell, Ph.D., Nebraska, 1974, Professor—field methods, Middle America

Ronald E. Nelson, Ph.D., Nebraska, 1970, Professor—historical-cultural settlement, Soviet Union

Siyoung Park, Ph.D., Minnesota, 1977, Associate Professor—urban, regional planning, geography of development

Richard L. Rieck, Ph.D., Michigan State, 1976, Associate Professor—Pleistocene geomorphology, physical, remote sensing

Russell G. Swenson, Ph.D., Wisconsin-Milwaukee, 1977, Associate Professor—cultural, environmental perception, human ecology

James W. Vining, M.A., Oklahoma, 1963, Professor—conservation, soils

Daniel Wise, Ph.D., Ohio State, 1979, Associate Professor—climatology, computer cartography, quantitative methods

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Anderson, Patricia A. "Maya Cosmology: Quadripartite or Dualistic?" 1983.

Baker, Michael R. "An Examination of the Relationship between High Concentrations of Ground-Level Ozone and Weather in the Chicago Metropolitan Area during the 1977 Ozone Season," 1982.

Burkholder, Martin J. "The Life Cycles of Farmland Terraces in Selected Iowa and Illinois Counties," 1982.

Coburn, David. "Big Meadow Channel: The Impact of Glacial Ice Invasion on Drainage Systems," 1982.

Lawrence, Carol A. "Assessment Patterns in Warren County, Illinois," 1982.

Western Kentucky University

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

DATE FOUNDED: 1907 GRADUATE PROGRAM FOUNDED: 1967

DEGREES OFFERED: M.S., M.A. in Education with a Geography Major, Master of Public Service in City and Regional Planning

GRANTED 7/1/82-6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 10
NOT IN RESIDENCE: 5

HEAD: Wayne L. Hoffman

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Studies Advisor, Department of Geography and Geology, Western Kentucky University, Bowling Green, Kentucky 42101
Telephone (502) 745-4555/6

PROGRAMS AND RESEARCH FACILITIES: The topical emphases in Western Kentucky University's graduate geography programs include social, physical, urban, and economic geography, and city and regional planning. Regional emphases are possible in Africa, Latin America, and North America. An emphasis in cartography and air photo is also available. Emphasis in all degree programs is placed on analysis of problems that have an applied aspect and consequently have implications for policy development. Programs are tailored to the student's interests and normally include courses in other departments.

Programs and Requirements—The Master of Science Degree, designed to prepare students for a variety of jobs and to become candidates for the Ph.D., requires a minimum of thirty semester hours of coursework, a thesis (or additional coursework in lieu of a thesis), plus either a reading knowledge of one language or a demonstrated proficiency in a research technique.

The department also administers the Master of Public Service Degree in City and Regional Planning, an interdisciplinary program designed to train public officials for service at local and state levels.

Graduates of the Geography and Planning Program are serving in a variety of discipline-related jobs around the country, and some are in both geography and planning Ph.D. programs in several major universities.

Research facilities include all standard laboratories, computer terminals, and access to a 360-75 computer, the College Heights Weather Station and State Climatology Center, a map library, and the university's graduate library. Members of the geography faculty are currently participating in research concerning transportation, social geography, water problems, climate and weather analysis, cave development, and historic preservation. In addition, field research by faculty and students is conducted continually in the local area, in several other states, and in Latin America.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:
Admission Requirements: An undergraduate degree with G.P.A. of 2.8 or higher (on a 4.00 scale), or a combined GRE score of 800. Semester System. *Financial Aid:* A number of teaching and research assistantships are available with stipends ranging between $2700 and $4000 for the academic year.

STAFF:

S. Reza Ahsan, Ph.D., Florida, 1963, Professor—cartography, air photo interpretation, remote sensing, Latin America, Eastern Africa

James M. Bingham, M.A., Memphis State, 1965, Ph.D. candidate, Indiana State, Assistant Professor—economic, urban, city and regional planning, Southeastern United States

Doral Glen Conner, M.S., Western Kentucky, 1976, Assistant Professor—geomorphology, aviation meteorology; State Climatologist

Nicholas Charles Crawford, Ph.D., Clark, 1977, Professor—geomorphology, hydrology, climatology

James L. Davis, Ph.D., Northwestern, 1964, Professor and Vice President of Academic Affairs—urban transportation, economic, North America

Ronald R. Dilamarter, Ph.D., Iowa, 1972, Professor—geomorphology, cartography, karst studies

Edmund E. Hegen, Ph.D., Florida, 1962, Professor—regional development, conservation of resources, geographic thought, Latin America

Wayne L. Hoffman, Ph.D., Florida, 1970, Professor and Head—city and regional planning, urban, economic

Mark Lowry II, Ph.D., Syracuse, 1973, Professor—city and regional planning, urban, social

Conrad T. Moore, Ph.D., UCLA, 1972, Associate Professor—resource management, biogeography, environmental perception

Albert J. Petersen, Ph.D., Louisiana State, 1970, Associate Professor—cultural, geographic education, geographic thought, Great Plains

Claude E. Pickard, Ph.D., Nebraska, 1969, Professor—economic, settlement patterns, manufacturing, North America

L. Michael Trapasso, Ph.D., Indiana State, 1980, Assistant Professor—climatology, geomorphology, remote sensing

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:

Rice, Donald. "Impact of Urban Stormwater Runoff on the Water Quality of the Subsurface Lost River, Bowling Green, Kentucky," 1982.

Tucker, Nancy. "Nonpoint Agriculture Pollution in a Karst Aquifer: Lost River Groundwater Drainage Basin, Warren County, Kentucky," 1982.

Western Michigan University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1905 GRADUATE PROGRAM FOUNDED: 1964

DEGREES OFFERED: M.A., M.A.T.

GRANTED 7/1/82-6/30/83: 3

GRADUATE STUDENTS IN RESIDENCE: 8
NOT IN RESIDENCE: 6

CHAIRMAN: Joseph P. Stoltman

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Charles F. Heller, Graduate Adviser, Department of Geography, Western Michigan University, Kalamazoo, Michigan 49008
Telephone (616) 383-1839

PROGRAMS AND RESEARCH FACILITIES: The M.A. degree program in Geography provides a solid foundation in the subject and at the same time permits specialization. Thirty hours of approved graduate credits must be completed, with at least twenty hours in geography. All students take seven hours of core courses in Geographic Research and Quantitative Methodology, then develop a three-course concentration (minimum) in one of five areas: Community Development and Planning, Economic and Urban Geography, Environmental and Resource Analysis, Physical Geography, or one of four regional specialties.

A 30-hour M.A.T. degree program in Geography is designed to improve the classroom teacher's competencies in the teaching of geography. Substantive content in geography and related disciplines is combined with professional development in elementary or secondary education.

The Department possesses fully equipped cartography, computer mapping, aerial photo, and quantitative laboratories which include map enlargers, lettering and scribing equipment, reproduction and darkroom facilities, sketch masters, height finders, mirror stereoscopes, remote computer terminals, and remote computer graphics terminals.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Graduate courses are concentrated in the Fall and Winter semesters, although graduate study may be accelerated by utilizing fully the trimester schedule of the University. Students with a 2.7 grade-point average (A = 4.0) during the last four semesters of undergraduate work are eligible for admission to the program. University and Departmental Harrison Fellowships with no duties are available to eligible students each year. Teaching and Research Assistantships coinciding with the Fall and Winter semesters (September through April) are also available. Applications for financial assistance must be supported by two letters of recommendation and transcripts of undergraduate work. All Fellows and Assistants are provided office space, and the same is normally true for all graduate students.

STAFF:

David G. Dickason, Ph.D., Indiana—economic development, quantitative methods, South Asia

Val L. Eichenlaub, Ph.D., Ohio State—climatology, Anglo-America, physical

Rainer R. Erhart, Ph.D., Illinois—remote sensing, physical, biogeography

Charles F. Heller, Ph.D., Illinois—agriculture, urban social, historical

Oscar H. Horst, Ph.D., Ohio State—physical landscapes, peasant societies, Latin America

Eugene C. Kirchherr, Ph.D., Northwestern—urban, planning and zoning, Subsaharan Africa

Philip P. Micklin, Ph.D., Washington—U.S.S.R., conservation, environmental impact assessment

Eldor C. Quandt, Ph.D., Michigan State—population, Scandinavia, ethnic studies

Henry A. Raup, Ph.D., Illinois—national parks, conservation, Western Europe

Hans J. Stolle, Ph.D. candidate, Wisconsin-Madison—cartography, computer graphics, remote sensing

Joseph P. Stoltman, Ed.D., Georgia—geographic education, cultural, Latin America

George Vuicich, Ph.D., Iowa—geographic education, urban, quantitative methods

Western Washington University

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.S.

GRANTED 7/1/82-6/30/83: 4

GRADUATE STUDENTS IN RESIDENCE: 15
NOT IN RESIDENCE: 10

CHAIRMAN: Debnath Mookherjee

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. James W. Scott, Department of Geography and Regional Planning, Western Washington University, Bellingham, Washington 98225
Telephone (206) 676-3278

PROGRAMS AND RESEARCH FACILITIES: The M.S. Program in Geography and Planning provides for concentrations in either geography or planning. A number of core courses are taken by all students in the program, followed by specialized courses, seminars, colloquia or studios in one or the other of the concentrations.

For those specializing in geography there are opportunities for research in Climatology, Biogeography, Urban Economic Geography, and Historical Geography.

For those specializing in planning, research opportunities are offered in Environmental Planning, Regional Development, Small Town and Rural Planning, and Water Resource Planning and Management.

The department has an extensive map collection organized by a full-time curator; a media laboratory under the direction of a staff cartographer; a cartographic laboratory; graduate research room; graduate offices; departmental Tektronix vector graphics terminal, Tektronix interactive digitizing plotter and Calcomp plotter; and access to the university's IBM 360/50 computer and interactive terminal system.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Quarter system, including summer. An undergraduate major in geography or planning with grade point average 3.0 (4-point system) or better is normally required for admission to graduate degree status. Teaching assistant stipends are $3,924 for the academic year; application deadline March 15, 1984. This deadline is especially important to those who apply for financial assistance. In addition the department has three $1000 scholarships it disburses each year. Application for these is required by April 15, 1984.

STAFF:

Janet R. Collins, B.S., Western Washington, 1974, Map Curator

Howard J. Critchfield, Ph.D., Washington, 1952, Professor—climatology, Southwest Pacific (Washington State Climatologist)

Eugene A. Hoerauf, M.A., Oregon, 1969, M. Libr., Washington, 1976, Cartographer

Robert L. Monahan, Ph.D., McGill, 1959, Professor—resources, Northlands, Canada (Director, Canadian-American Studies)

Debnath Mookherjee, Ph.D., Florida, 1961, Professor—South Asia, urban geography, planning (Director, Urban and Regional Planning Program)

Franklin C. Raney, Ph.D., UC, Davis, 1962, Associate Professor—water resources, biogeography, soils

James W. Scott, Ph.D., Indiana, 1971, Professor—historical, cultural, population (Director, Center for Pacific Northwest Studies)

Richard G. Smith, Ph.D., Wisconsin, 1965, Associate Professor—landforms, United States, Canada, Arctic, conservation

Thomas A. Terich, Ph.D., Oregon State, 1973, Associate Professor—urban and regional planning, coastal studies, environmental hazards

Robert W. Teshera, Ph.D., Washington, 1970, Associate Professor Emeritus—political, United States, Canada

Manfred C. Vernon, J.D., Berlin, Ph.D., Stanford, Honorary Lecturer in Political Geography, Environmental Law, Law of the Sea

One additional faculty appointment pending.

ADJUNCT FACULTY:

Richard H. Berg, Ph.D., Washington, 1970, Associate Professor—remote sensing, quantitative methods, water resources

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Bagi, Mohamed A. "The Desertification of North Africa: Causes and Cures," 1983.

Meyer, Harm F. W. "A Correlation between Coastal Dune Vegetation and Shoreline Dynamics on Long Beach Peninsula, Washington," 1983.

Rabins, Erick S. "Economic Functions of Rural Settlements in the Nooksack Lowland, 1900-1960: The Effects of Transportation Mode Change," 1983.

Salem, Salem F. "Urban Growth and the Transportation Problem in Benghazi, Libya, with Special Emphasis on Public Transportation," 1983.

University of Wisconsin

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1928 GRADUATE PROGRAM FOUNDED: 1928

DEGREES OFFERED: M.S. (Geography), M.S. (Cartography),
Ph.D. (Geography)

GRANTED 7/1/82-6/30/83: 9 Masters, 3 Ph.D

GRADUATE STUDENTS IN RESIDENCE: 37 Masters 29 Ph.D.
NOT IN RESIDENCE: 1 Masters 1 Ph.D.

CHAIRMAN: James C. Knox

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Committee on Graduate Appointments, Department of Geography, The University of Wisconsin, Madison, Wisconsin 53706
Telephone (608) 262-2138 (Department)
(608) 262-3861 (Graduate Office)

PROGRAMS AND RESEARCH FACILITIES: The Department offers a broad range of programs in systematic and regional geography, and a separate M.S. program in cartography. The Department cooperates in both graduate instruction and research guidance with numerous other departments of the University. It plays an active role in such interdisciplinary programs as African Studies, American Institutions, Asian Studies, Ibero-American Studies, Population Studies, Urban and Regional Planning, Environmental Studies, and Water Resources, and an informal program in Quaternary Studies.

An unusual variety of facilities for graduate study and research exists in Madison. Grouped conveniently in Science Hall with the Geography Department are the Geography Library, the University's Map and Air Photo Library, the Cartographic Laboratory, and a Geomorphology Laboratory. Only a few hundred yards separate Science Hall from the central University Library and the State Historical Society Library. Nearby are specialized reference libraries and the main computing center of the University. Madison, the state capital, houses most divisions of the state government and several federal agencies.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The types of financial assistance include the following appointments:

Teaching Assistantships: Duties ordinarily include about 5 to 8 hours per week of classroom teaching, for which the salary currently ranges from $5404 to $8537 for the academic year.

Project and Research Assistantships: Duties involve the assistance of staff members either in their research projects or under the supervision of the Director of the University Cartographic Laboratory. Such duties total not more than 20 hours per week. The salaries currently range from $4266 to $6516 for the academic year.

University Fellowships: These awards, requiring no departmental duties, are available through a competitive program administered by the Graduate School. They currently yield $7470 for the academic year, plus remission of non-resident tuition fees. Advanced Opportunity (Minority) Fellowships are also available.

Departmental Fellowships: The Department awards two Whitbeck Fellowships and one or two Trewartha Fellowships.

Appointments are usually for 9 months (September to June, inclusive) and holders normally are exempt from the non-resident tuition fee which currently is $2347.50 per semester, although they must still pay fees which are currently $784 per semester.

STAFF:

Waltraud A.R. Brinkmann, Ph.D., Colorado, 1973, Associate Professor—climatology, natural hazards (also Director, Center for Geographic Analysis, Institute for Environmental Studies)

Reid Bryson, Ph.D., Chicago, 1948, D.Sc., Denison, 1971, Professor—climatology, environmental science (also meteorology, and Director of Institute for Environmental Studies)

James E. Burt, Ph.D., UCLA, 1980, Assistant Professor—climatology, hydrology, quantitative analysis

Martin T. Cadwallader, Ph.D., UCLA, 1973, Professor—urban, economic, quantitative analysis

Clare Stapleton Concord, Ph.D., Northwestern, 1977, Assistant Professor—applied economic, population

William M. Denevan, Ph.D., UC, Berkeley, 1963, Professor—cultural ecology, humid tropics, historical, Latin America

Daniel F. Doeppers, Ph.D., Syracuse, 1972, Professor—social change and social geography of Third World cities, Southeast Asia

James C. Knox, Ph.D., Iowa, 1970, Chairman and Professor—geomorphology, paleohydrology, water resources

Dianna Liverman, Ph.D. candidate, UCLA, Assistant Professor—agriculture, physical, modeling

Joel L. Morrison, Ph.D., Wisconsin, 1968, Professor—cartography, mapping

Phillip C. Muehrcke, Ph.D., Michigan, 1969, Professor—cartography, mapping

Daniel R. Muhs, Ph.D., Colorado, 1980, Assistant Professor—soils, geomorphology, Quaternary environments

Robert C. Ostergren, Ph.D., Minnesota, 1976, Associate Professor—historical, conservation, Northern Europe, North America

Robert D. Sack, Ph.D., Minnesota, 1970, Professor—political, economic, geographic thought

Yi-Fu Tuan, Ph.D., UC, Berkeley, 1957, Professor—cultural

Thomas R. Vale, Ph.D., UC, Berkeley, 1973, Professor—biogeography, natural resources, landscape and landscape change

David Ward, Ph.D., Wisconsin, 1963, Professor—historical, urban, social, North America, Europe (also Associate Dean, Graduate School)

David Woodward, Ph.D., Wisconsin, 1970, Professor—cartography, mapping, history of cartography (also Director, Cartographic Laboratory)

George H. Dury, Professor Emeritus

Richard Hartshorne, Professor Emeritus

Francis D. Hole, Professor Emeritus

Clarence W. Olmstead, Professor Emeritus

Arthur H. Robinson, Professor Emeritus

Randall D. Sale, Professor Emeritus

Henry S. Sterling, Professor Emeritus

Glenn T. Trewartha, Professor Emeritus

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Aguado, Edward. "An Energy Budget Model of Snowmelt in Southern and East-Central Wisconsin," 1983.* Mf., University Microfilms.

Parker, Kathleen Conn. "The Structure of Bird Communities in North American Deserts," 1982.* Mf., University Microfilms.

Saueressig, Yda. "Emigration Settlement and Assimilation of Dutch Catholic Immigrants in Wisconsin," 1982.* Mf., University Microfilms.

Master's:

Chappell, Gary. "Newsweekly Magazine Maps: Coverage of the Falkland Islands Crisis in *Newsweek, Time,* and *U.S. News and World Report,*" 1983.

Desloges, Joseph. "Sedimentology and Paleohydrology of Alpine Multiple-Process Channels in Southwestern Alberta," 1982.

Johnson, Margaret. "An Empirical and Theoretical Examination of the Mental Map," 1982.

Klak, Thomas. "Behavioral Geography and Scientific Model-Building: Summary, Critique, and Implementation toward Understanding Food-Store Patronage," 1982.

Leimer, Judith. "The Influences of the Technical Constraints and Personnel Limitations on the Quality of Maps in American Newspapers," 1982.

Wiljanen, Mark. "A Critical Examination of the Development of a Concept of Human Territoriality with a Case Study in the History of American School Design," 1983.

University of Wisconsin—Milwaukee

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1916 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A., M.S., Coordinated M.A. Degree in Geography and Library Science, Ph.D.

GRANTED 7/1/82-6/30/83: 2 Masters, 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 17 Masters 15 Ph.D.
NOT IN RESIDENCE: 13 Masters 15 Ph.D.

CHAIR: Barbara Z. Borowiecki

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Administrative Committee, Department of Geography, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin 53201
Telephone (414) 963-4866

PROGRAMS AND RESEARCH FACILITIES: Areas of faculty strength and emphasis are urban geography, climatology, Latin America, Europe, the Arctic, and the U.S.S.R. Research by staff members and students on North America, the Northern Lands, terrain morphometry, regional and systematic geomorphology, soils geography, biogeography, cartography, remote sensing, geographic information systems, settlement geography, geography of ethnicity, maritime cultural geography, migration, and the geography of the humid tropics also is pursued actively.

The research programs in urban geography emphasize city-region relationships, internal structure, comparative urban geography and historical evolution of cities and metropolitan areas, and locational analysis, as well as relations of urban functions and land uses to transportation and metropolitan planning. The Department of Urban Affairs and The School of Architecture and Urban Planning as well as the Urban Research Center, strengthen geographical work in the urban field.

Training in climatology is supported by the standard courses in meteorology and hydrology. Available facilities include radiation-detecting and other meteorological equipment, a field station which includes a variety of ecosystems, and the Center for Great Lakes Studies. Research is being conducted currently on the climates of the Soviet Union, on energy and water budgets, air pollution, long range forecasting, and climatic change.

Emphases in Latin America are historical (European discovery and exploration), rural and abandoned settlements, agricultural, geomorphology, and the humid tropics. Research is assisted by a campus Center for Latin American Studies. Current research by staff and graduate students is being pursued in Argentina, Belize, Brazil, Colombia, Ecuador, Guatemala, Mexico, and Venezuela.

The Europe and U.S.S.R. program, supported by an undergraduate Certificate Program in Russian and East European Studies, involves both topical and regional analysis, with considerable emphasis on climate, agriculture, and population of the U.S.S.R.; urban geography of West Germany; and comparative analysis of the East European and Mediterranean countries.

The Department has an official State Soils Laboratory, Cartographic and Remote Sensing Laboratory, a Map Library, and computer facilities. The American Geographical Society Collection containing 600,000 items, including many rare items, is now housed at UWM, and is open to everyone without charge.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system, fall semester ending before Christmas; summer session. About six teaching assistantships (stipend currently $5508 to $5700 for 33.3% positions); students may compete for University of Wisconsin Fellowships (stipend currently $6615). There are also opportunities for Research and Project Assistantships, nonresident tuition remission fellowships, and fellowships for minority or financially disadvantaged students (AOP). Internships in the A.G.S. collection and employment opportunities in the State Soils Laboratory are also available.

STAFF:

Karel Bayer, Ph.D., Charles University, Prague, 1960, Associate Professor—geography of ethnicity, environmental perception, historical climatology, Central Europe, Mediterranean

Barbara Z. Borowiecki, Ph.D., Wisconsin, 1962, Professor—terrain morphometry, regional geomorphology, Eastern Europe

Michael Day, D.Phil., Oxford, 1979, Assistant Professor—geomorphology, biogeography, environmental analysis

Clinton R. Edwards, Ph.D., UC, Berkeley, 1962, Professor—historical, maritime, Latin America

Robert C. Eidt, Ph.D., UCLA, 1954, Professor—rural settlement, Latin America, soils geography

Robert Ericksen, Ph.D., Iowa, 1980, Assistant Professor—quantitative and locational analysis, geographic information systems, computer cartography

James J. Flannery, Ph.D., Wisconsin, 1956, Associate Professor—cartography, remote sensing

Donn K. Haglund, Ph.D., Pennsylvania, 1958, Professor—economic, the Arctic, Canada, Norden

Lutz Holzner, Dr. rer. nat., Wurzburg, 1964, Professor—urban, Western Europe, South Africa, comparative urban

Frank E. Horton, Ph.D., Northwestern, 1966, Professor and Chancellor—urban, quantitative

Paul E. Lydolph, Ph.D., Wisconsin, 1955, Professor—climate, U.S.S.R.

Harold M. Mayer, Ph.D., Chicago, 1943, Professor—urban, transportation, city and metropolitan planning, North America

Harold M. Rose, Ph.D., Ohio State, 1960, Professor—population, behavior in the urban environment

Norman R. Stewart, Ph.D., UCLA, 1963, Associate Professor—pioneer settlement, Latin America

Werner A. Baum, Ph.D., Chicago, 1948, Professor Emeritus

Ruth Stoveken, M.S., Wisconsin, 1947, Assistant Professor Emerita
John C. Weaver, Ph.D., Wisconsin, 1942, Professor Emeritus

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:
Ph.D.:

Block, David. "Spectral and Textural Analysis of an Urban Area Utilizing Digital Landsat Data," 1983.

Bond, Andrew. "Norilsk: Profile of a Soviet Arctic Development Project," 1983.

Chalothorn, Supannee. "Greater Bangkok: An Analysis in Electoral Geography, 1957-1976," 1982.

Master's:

Foeste, Joan. "The Changing Role of the Commuter Airline in Meeting the Demand for Air Service at Wisconsin Communities in the Post-Deregulation Period," 1982.

University of Wyoming

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A., M.S.T., M.P.

GRANTED 7/1/82–6/30/83: 0

GRADUATE STUDENTS IN RESIDENCE: 14
NOT IN RESIDENCE: 8

CHAIRMAN: Lawrence M. Ostresh, Jr.

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Professor Lawrence M. Ostresh, Jr., Chairman, Department of Geography, University of Wyoming, Laramie, Wyoming 82071
Telephone (307) 766–3311

PROGRAMS AND RESEARCH FACILITIES: The Master of Arts (M.A.) and the Master of Science in Teaching (M.S.T.) programs at Wyoming emphasize four systematic specialties: cultural-political geography; physical geography; urban-economic geography; and environment and resource management. Curricula within these areas are individually tailored to the needs of each student, but include the attainment of at least two of the following geographic skills: computer cartography, quantitative methods, field methods, soils laboratory methods, air photo interpretation, and geographic analysis.

Cultural-Political Geography: This is one of the broadest Master's programs in the Department. It applies various areal viewpoints to the study of small regions, culture spread, settlement hierarchy, sequential occupance, and the perception of natural resources. In addition to their geography coursework, students are encouraged to take courses in political science, history and other social sciences.

Physical Geography: This program centers around the areas of geomorphology, archeology, and soils — especially pertaining to the Rocky Mountain area — and on paleoenvironments of the Quaternary as studied through landforms, soils, biogeography, palynology, and dendrochronology. A newly completed physical geography laboratory permits students to be trained in modern laboratory methods and techniques.

Urban-Economic Geography: Wyoming and the American West face a population explosion brought on by the development of their extensive energy resources. This provides an unparalleled opportunity for the geographic study of regional and community growth processes and the examination of the problems and promises they entail. The urban-economic program capitalizes on its accessibility to these growth related phenomena and emphasizes studies such as: The evolution of central place systems; migration patterns; locational analyses of new towns and public facilities; the land-use conversion process; and the social consequences of boomtown growth.

Environment and Resource Management: Energy related growth also provides opportunities for students to investigate a variety of critical probelms in resource management such as land use plannning for public lands, wildlife management, water resources, and the impact of development on environmental values. A combination of courses in geography, economics, law, natural science, recreation, and related fields provides an excellent interdisciplinary framework for this program.

In addition to the above geography programs, the Department offers a professional Master in Planning (M.P.) degree for students wishing to pursue training in *Community and Regional Planning*. The program is an interdisciplinary effort, involving various colleges and departments of the University. Its emphasis is on preparing individuals to function as effective regional, community, or environmental planning directors in Wyoming and other Rocky Mountain states.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan*—Plan A, with Thesis. Plan B with 2 papers. M.S.T. with one paper. *Admission Requirements*—Applicants evaluated on an individual basis. Undergraduate backgrounds in the social or natural sciences and the humanities accepted. Deficiencies can be remedied during the graduate program. *Financial Aid*—full-time Graduate Assistantships, paying a minimum of $5,175 plus remission of tuition fees. *Semester System* —At least 2 semesters in residence.

STAFF:

Ronald Beiswenger, Ph.D., Michigan, 1972, Professor—conservation, environmental studies, world resources, biogeography

Hans Bleiker, Ph.D., M.I.T., 1972, Associate Professor—community and regional planning, problem-solving, decision-making processes

Robert H. Brown, Ph.D., Chicago, 1957, Professor—political and settlement geography, Wyoming, geographic thought

Phillip M. Fowler, Ph.D., Iowa, 1969, Associate Professor—urban, quantitative methods, economic

Lawrence M. Ostresh, Ph.D., Iowa, 1973, Associate Professor—location analysis, quantitative methods, urban-economic, computer cartography

Richard G. Reider, Ph.D., Nebraska, 1971, Associate Professor—soils, geomorphology, climatology

William E. Riebsame, Ph.D., Clark, 1981, Assistant Professor—natural resources management, climatology

CANADIAN UNIVERSITIES

University of Alberta

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1957 GRADUATE PROGRAM FOUNDED: 1960

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 10 Masters, 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 35 Masters 14 Ph.D.
NOT IN RESIDENCE: 14 Masters 6 Ph.D.

CHAIRMAN: R. Geoffrey Ironside

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Department of Geography, University of Alberta, Edmonton, Alberta, Canada T6G 2H4
Telephone (403) 432-3274

PROGRAMS AND RESEARCH FACILITIES: Individual graduate programs vary with the interests and training of the candidate. Minimum programs comprise three full-year courses for M.A./M.Sc. candidates who have completed four-year specialized degrees, and one course for Ph.D. candidates. A thesis is required of all graduate students, but there are no formal language requirements. All M.A./M.Sc. candidates must complete a course in cartography (if they have not previously done so) and a course in research methods.

In addition to access to a major library and computing center, research facilities include very generous photographic, cartographic and computing services; the University Map Collection; the Boreal Institute; research labs (geomorphology, population); and meteorological instrumentation near Edmonton.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* The teaching year extends from early September to mid-April, and is divided into two terms broken at Christmas. Some courses extend over the full period, but most are only half-year (one term).

Admission Requirements: A baccalaureate degree with at least second-class standing (65%) in the last two years of undergraduate work, and the approval of the Department. *Financial Aid:* (1) Fellowships, Scholarships and Bursaries—Supported by University, Provincial and foundation funds. Valued at up to $7200 for master's candidates, and up to $11,500 for doctoral candidates. (2) Graduate Assistantships—Valued at $5814 to $8670 dependent on qualifications. Approximately 12 hours per week on departmental duties is required during the 8-month academic year. (3) Intersession Bursaries—A certain number, valued at $2616, are available to support thesis research by resident graduate students. (4) Additional assistance—Available periodically from various agencies in connection with departmental and faculty research projects.

STAFF:

John F. Bergmann, Ph.D., UCLA, 1959, Associate Professor—historical, Latin America

Michael C. Brown, Ph.D., McMaster, 1970, Associate Professor—karst geomorphology, microclimatology

Ian A. Campbell, Ph.D., Colorado, 1968, Professor—fluvial processes, arid lands

Robert B. Charlton, Ph.D., Toronto, 1970, Associate Professor—meteorology

John England, Ph.D., Colorado, 1974, Associate Professor—glacial, Arctic Quaternary

Kenneth J. Fairbairn, Ph.D., Melbourne, 1968, Professor—socioeconomic studies, consumer behavior

Keith D. Hage, Ph.D., 1957, Chicago, Professor—meteorology

M. John Hodgson, Ph.D., Toronto, 1973, Associate Professor—location/allocation analysis

R. Geoffrey Ironside, Ph.D., Dunelm, 1965, Professor and Chairman—regional/rural development and planning

Edgar L. Jackson, Ph.D., Toronto, 1974, Associate Professor—natural hazards, recreation, energy, resources

Denis B. Johnson, Ph.D., Belfast, 1969, Associate Professor—documentary film making, retail structure

G. Peter Kershaw, Ph.D., Alberta, 1982, Assistant Professor—Arctic Alpine biogeography, northern development

Leszek A. Kosinski, Ph.D., Warsaw, 1958, Professor—population, political

Arleigh H. Laycock, Ph.D., Minnesota, 1957, Professor—hydrology and water resources, air photo interpretation

Edward P. Lozowski, Ph.D., Toronto, 1970, Professor—meteorology

Harold J. McPherson, Ph.D., McGill, 1967, Professor—mountain geomorphology, natural hazards and water resources in developing countries

Jean-Claude Muller, Ph.D., Kansas, 1974, Professor—analytical cartography, computer graphics, map perception

R. Bruce Rains, Ph.D., Alberta, 1969, Associate Professor—fluvial, glacial geomorphology

Erhard R. Reinelt, Ph.D., Alberta, 1964, Professor—meteorology

Neil R. M. Seifried, Ph.D., Washington, 1969, Associate Professor—industrial location, urban and regional growth

O. F. George Sitwell, Ph.D., Toronto, 1968, Associate Professor—history of geography, cultural landscape

Peter J. Smith, Ph.D., Edinburgh, 1964, Professor—political urban geography, urban planning theory and history

S. Ivan Smith, Ph.D., McGill, 1963, Associate Professor—applied climatology, Third World, Africa, and the Caribbean

William C. Wonders, Ph.D., Toronto, 1951, University Professor—settlement, Northern Lands

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Ajao, Ade. "Firm and Product Age Distributions of Selected Growth Manufacturing Industries in the Prairies," 1983. Mf., National Library.

Hudson, Henry. "Hydrology and Sediment Transport in the Elbow River Basin, S.W. Alberta," 1983. Mf., National Library.

Kershaw, G. Peter. "Long-Term Ecological Consequences in Tundra of the Canol Crude Oil Pipeline Project, N.W.T.," 1983. Mf., National Library.

Master's:

Dawson, M. "Sediment Variation in a Braided Reach of the Sunwapta River, Alberta," 1982. Mf., National Library.

Freund, J. "Aerosol Optical Depth and Single-Scattering Albedo in Arctic Canada," 1982. Mf., National Library.

Holm, K.A. "Regionalization in Alaska: An Evaluation of the Significance of Newspaper Circulation and of Air Route Networks," 1982. Mf., National Library.

Hopps, Paul. "A Low-Cost Micrometeorological Data Acquisition System," 1983. Mf., National Library.

Jones, L.A. "Spatial Variations in Use of Public Library Services in Edmonton," 1982. Mf., National Library.

Kochtubajda, Bodhan. "Theory and Measurement of Dry Ice Sublimation in Clear Air and Simulated Cloud," 1983. Mf., National Library.

Olson, Paul R. "Summer Temperature Variations in a Small Mountain Valley in West-Central Alberta," 1983. Mf., National Library.

Sneyd, A.R. "Watershed Management in the Kananaskis District East Slopes, Alberta," 1983. Mf., National Library.

Stovel, Leslie D. "A Two-Dimensional Numerical Model of Airflow within a Small Urban Valley," 1983. Mf., National Library.

Welch, James. "The Geomorphology of Strawberry Creek Basin, Central Alberta," 1983. Mf., National Library.

272

University of British Columbia

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1923 GRADUATE PROGRAM FOUNDED: 1947

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82–6/30/83: 6 Masters, 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 29 Masters, 18 Ph.D.
NOT IN RESIDENCE: 7 Masters, 5 Ph.D.

HEAD: H.O. Slaymaker

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Registrar's Office, University of British Columbia, Vancouver, B.C., Canada V6T 1W5. Further information: Department of Geography, University of British Columbia, Vancouver, B.C., Canada V6T 1W5
Telephone (604) 228-2663, 3246

PROGRAMS AND RESEARCH FACILITIES: M.A., M.Sc., Ph.D. Programs:

A. Physical Geography, Emphasizing Climatological and Geomorphological Processes—

1. Climatology: heat and water balances of active surfaces; energy balances at the micro, synoptic and macro scales; urban climatology; solar energy.

2. Geomorphology: sediment transfer studies in the Coast Mountains and Interior Plateaus of B.C.; processes in alpine, sub-alpine, and arctic areas, especially slope stability and river behavior; permafrost.

3. Hydrology: field studies of runoff sources, drainage initiation, and snow hydrology; palaeohydrology.

B. Human Geography, Emphasizing Locational and Regional Analysis, and Humanistic, Behavioral and Ecological Approaches—

1. Locational and Regional Analysis: spatial organization and interaction including network studies; intraurban geography, emphasizing policy studies; regional structure, development and policy; resource use and allocation, especially the location and use of commercial energy.

2. Humanistic, Behavioral and Ecological Approaches: historical studies with a humanistic emphasis of society and land in the light of changing values, perceptions and technology; social and behavioral studies of urban groups and urban spatial structures; ecological adaptations of land-based cultures, including past and present human ecology in Middle American lowlands.

The regional emphases of the department include Canada (especially western Canada and the Arctic); Southeast and East Asia (especially China); the Soviet Union and Eastern Europe; and Latin America. Courses are available in methodology, philosophy of geography, and techniques appropriate for research in a broad area.

Interdisciplinary Programs—Participation in the Arctic and Alpine, Hydrology, Resource Science, Urban and Transportation, Asian and Slavonic and International Studies programs of the University.

Field Studies—Ongoing projects in the Western Arctic and Cordilleran regions of Canada and special projects in Latin America. Field work may be supported under grants to faculty members.

Other Facilities—In department: extensive map and air photo holdings of B.C.; considerable calculating capacity; geomorphological and climatological laboratory; office space for graduate students. In university: second largest library in Canada; access to AMDAHL 470/V/6, Model II computing system with mapping and graphic capabilities; Graduate Student Centre.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID:
Academic Plan—Academic year, September 1-August 31. Two terms: September 1-December 21, January 3-April 30.

Admission Requirements—Honours or major degree in geography with at least upper Second Class Standing or a grade point average of 3.0 on a 4.0 scale. Applicants from related fields will be considered.

Financial Aid—Scholarships: H.R. MacMillan fellowships and U.B.C. Graduate Faculty fellowships are open to superior students. Applications are made through the Head of the Department. Canada Council, Commonwealth, Ford Foundation, C.M.H.C. and Ministry of T. Fellowships are tenable at U.B.C. Applications are made directly to these organizations. Teaching assistantships with competitive stipends are available during the eight-month academic year (September to early May). There are other assistantships for the Summer Session.

STAFF:

T. J. Barnes, Ph.D., Minnesota, 1983, Assistant Professor—economic, urban

M. J. Bovis, Ph.D., Colorado, 1974, Assistant Professor—geomorphology, snow, avalanche hazards, statistical analysis (leave 1983-1984)

J. D. Chapman, Ph.D., Washington, 1958, Professor—economic (manufacturing and energy), philosophy of geography

M. Church, Ph.D., British Columbia, 1971, Associate Professor—geomorphology

Richard Copley, M.A., UC, Berkeley, 1961, Senior Instructor—cultural/historical, East Asia

K. Denike, Ph.D., Pennsylvania, 1973, Assistant Professor—urban, quantitative methods, transportation

J. S. Duncan, Ph.D., Syracuse, 1978, Associate Professor—urban geography, South Asia (leave 1983)

A. L. Farley, Ph.D., Wisconsin, 1960, Professor—cartography, air photo interpretation, Pacific Northwest

Walter G. Hardwick, Ph.D., Minnesota, 1963, Professor—public aspects of urban development

R. C. Harris, Ph.D., Wisconsin, 1964, Professor—historical, Canada (leave 1983-1984)

274

John E. Hay, Ph.D., London, 1970, Professor—climatology (solar radiation and synoptic)

David F. Ley, Ph.D., Pennsylvania State, 1972, Associate Professor—urban, social, theoretical

J. Ross Mackay, Ph.D., Montreal, 1948, Honorary Professor—arctic geomorphology, cartography, Canadian Western Arctic

T. G. McGee, Ph.D., Wellington (New Zealand), 1969, Professor and Director, Institute for Asian Research—Third World cities, East and Southeast Asia

Margaret E. A. North, M.A., Kansas, 1961, Senior Instructor—plant geography

Robert N. North, Ph.D., British Columbia, 1968, Associate Professor—economic development, U.S.S.R.

T. R. Oke, Ph.D., McMaster, 1967, Professor—climatology (urban and micro)

J. Lewis Robinson, Ph.D., Clark, 1946, Professor—Canada, philosophy of geography

Marwyn S. Samuels, Ph.D., Washington, 1971, Associate Professor—historical, China, philosophy of geography (leave 1984)

Alfred H. Siemens, Ph.D., Wisconsin, 1964, Associate Professor—cultural, Latin America

H. O. Slaymaker, Ph.D., Cambridge, 1968, Professor and Head—fluvial geomorphology/hydrology, British Columbia

Robert H. T. Smith, Ph.D., Australian National, 1962, Vice President Academic and Professor—economic, Third World

J. K. Stager, Ph.D., Edinburgh, 1962, Associate Dean and Professor—Canadian Arctic

D. G. Steyn, Ph.D., British Columbia, 1980, Assistant Professor—boundary layer meteorology

Graeme Wynn, Ph.D., Toronto, 1974, Associate Professor—historical, Canada

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Radke, John. "Pattern Recognition in Circuit Networks," 1983.

Master's:

Jones, P. "Rainsplash and Surface Wash on Alpine Slopes," 1982.

Lindell, S. "Public Policy and Central Business District Housing," 1982.

McDonnell, S. "Land Use and Wage Labour in Paulatuk, N.W.T.," 1983.

Petticrew, Ellen L. "The Natural Variation of Sediment Phosphorus Fractions in the Littoral Zone of Vernon Arm, Okanagan Lake, British Columbia," 1983.

Raphael, C. "Models for Estimating Solar Irradiance at the Earth's Surface from Satellite Data: An Initial Assessment," 1982.

Williams, H. "Influence of Topography and Infiltrability on Soil Moisture and Runoff Generation in a Small Sub-Alpine Watershed," 1982.

University of Calgary

DEPARTMENT OF GEOGRAPHY
DATE FOUNDED: 1961 GRADUATE PROGRAM FOUNDED: 1961
DEGREES OFFERED: M.A., M.Sc., Ph.D.
GRANTED 7/1/82-6/30/83: 8 Masters, 1 Ph.D.
GRADUATE STUDENTS IN RESIDENCE: 19 Masters 5 Ph.D.
NOT IN RESIDENCE: 0 Masters 0 Ph.D.
HEAD: Lynn A. Rosenvall

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Program, Department of Geography, The University of Calgary, 2500 University Drive, Calgary, Alberta, Canada T2N 1N4
Telephone (403) 284-5584

PROGRAMS AND RESEARCH FACILITIES: Programs of graduate study are offered in most fields of Geography at the Masters and the Doctoral level and all involve course work and a dissertation. The majority of present graduate students are at the Masters level and are working in the fields of: geomorphology, biogeography, climatology, resource utilization, urban and economic studies, social and historical geography. A similar emphasis occurs at the Doctoral level where programs are available in many areas of human and physical geography including the geography of resources. Faculty and graduate studies focus primarily upon Western Canada and the Americas.

The department has well-equipped laboratories for cartography, soils, biogeography, geomorphology, and climatology (includes the University Weather Research Station) and has materials and equipment for field work, air photo interpretation and quantitative analysis (including: Tektronix graphics and Diablo hard copy terminals linked to the University's Computer Centre which houses a Honeywell Multics, two CDC Cybers, a Harris 8000 graphics computer, and an IBM 360-50 computer; a large digitizer linked to an IBM keypunch; and a 48K Apple II computer with floppy disk and printer).

Geography is an active participant in the work of the Kananaskis Centre for Environmental Research (situated in the Kananaskis Valley), the Institute for Transportation Research and programs on Resources and the Environment, Urban Studies, and Latin American Studies. The University Library has good geography holdings with large collections of current periodicals, government documents, and maps.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* Year system; two four-month sessions (September—April), and an inter-session normally dedicated to thesis work (May—August).

Admission Requirements: Baccalaureate degree with an average of at least B in the work of the last two undergraduate years and recommendation of the department. Early application is advised as offers of departmental financial aid are usually made by January for September entry.

Financial Aid: Graduate research, teaching, and service assistantships range from $11,500 to $13,125 (plus remission of fees and travel allowance) depending upon the particular assistantships and year of study at Calgary.

University and Provincial awards range to $10,000 (details in the Faculty of Graduate Studies Calendar). In addition graduate students may be eligible for awards offered by The Canada Council, National Research Council, Central Mortgage and Housing Corporation, Transportation Commission, and other agencies.

STAFF:

Brenton M. Barr, Ph.D., Toronto, 1968, Professor—industrial location, regional economic development, Soviet Union, Western Canada

Lawrence D. Cordes, Ph.D., British Columbia, 1973, Associate Professor—biogeography, soils, wildland ecosystems

Michael R. C. Coulson, Ph.D., Kansas, 1966, Associate Professor—cartography, urban

Wayne K. D. Davies, Ph.D., Wales, 1964, Professor and Associate Dean, Faculty of Graduate Studies—urban, methodology, political

Mario B. Giovinetto, Ph.D., Wisconsin, 1968, Professor—physical climatology, climatic change, glaciology

Alfonso Gonzalez, Ph.D., Texas, 1962, Professor—Latin America, socioeconomic development, population, world regions

Louis Hamill, Ph.D., Washington, 1963, Associate Professor—renewable resources, wildland environments, recreation and tourism, landscape analysis

Stuart A. Harris, Ph.D., London, 1968, Professor—geomorphology, soils, Quaternary studies

Peter D. Herrem, M.A., Minnesota, 1971, Senior Instructor—cultural and historical geography

David R. W. Jones, Ph.D., London, 1964, Associate Professor—international trade, political, cultural and economic geography of the Tropics

Herbert G. Kariel, Ph.D., Iowa, 1962, Professor—social, diffusion, perception, mountain regions and national parks

Arthur G. Limbird, Ph.D., Michigan State, 1971, Associate Professor—soils, environmental analysis

Richard P. Momsen, Jr., Ph.D., Minnesota, 1960, Professor—Brazil, Latin America, applications of remote sensing to regional analysis

Lawrence C. Nkemdirim, Ph.D., London, 1967, Professor—climatology, hydrology

Lynn A. Rosenvall, Ph.D., UC, Berkeley, 1972, Associate Professor and Department Head—historical [illegible] cultural, Southwest Pacific

Derald G. Smith, Ph.D., Johns Hopkins, 1973, Associate Professor—fluvial geomorphology, deltaic sedimentary systems

Nigel M. Waters, Ph.D., Western Ontario, 1977, Associate Professor—transportation, location models, computer cartography

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Notzke, Claudia. "The Development of Canadian Indian Reserves: As Illustrated by the Examples of the Stoney and Peigan Reserves," 1982.

Master's:

Allan, Harriet D. "Dendrochronological Studies in the Slims River Valley, Yukon Territory," 1982.

Bradley, Cheryl. "Modified Meandering River Regimes—Effects on Plains Cottonwood Regeneration: Milk River Valley, S.E. Alberta and N. Montana," 1982.

Bradshaw, Michael J. "A Comparative Study of Remote-Area Development in the Northlands of Canada and the Soviet Union," 1982.

Burton, Paul. "An Efficient Location-Allocation Algorithm for the Dynamic Spatial Optimization of Facilities in a Plane," 1983.

Macintosh, Sheila C. "Second Homes in the Calgary Hinterland," 1981.

McCorry, James J. "Aspects of the Visual and Sonic Impact from Transportation," 1982.

Mills, Caroline A. "Concepts of Intra-Urban Community," 1982.

Quin, Andrew. "Crevasse-Splay Deposits: A Study of the Geomorphology and Sedimentology in an Anastomosing Fluvial System," 1982.

Carleton University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1957 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A. (Ph.D. possible with cooperating departments)

GRANTED 7/1/82-6/30/83: 12 M.A. 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 23 M.A. 2 Ph.D.
NOT IN RESIDENCE: 39 M.A.

CHAIRMAN: T.P. Wilkinson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Supervisor of Graduate Studies, Department of Geography, Carleton University, Colonel By Drive, Ottawa, Ontario, Canada K1S 5B6
Telephone (613) 231-2641

PROGRAMS AND RESEARCH FACILITIES: The M.A. program of the Department offers instruction and research guidance in the fields of Cultural and Historical Geography, Urban and Economic Geography, Rural and Resource Development, Cartography, Physical Geography, and Geotechnical Science. Within these areas a high level of flexibility is available in the formulation of the student's program, so long as it falls within the research interests of the department. Since effective pursuit of many geographical research problems requires a cooperative role from faculty, the student's research advisory committee may be drawn from several specialist groups from both within and outside the department.

Since the strength and scope of a graduate program is in large measure determined by the expertise and interests of the faculty members, the principal research interests of the various faculty members is elaborated below in some detail. In addition to these interests the Department has close liaison with other academic departments and with the Institute of Canadian Studies, the School of International Affairs, the Institute of Soviet and East European Studies, and the Ottawa-Carleton Centre for Geoscience Studies of the University, and with researchers in several Federal Government Departments. Study and research are supported by highly qualified staff in the fields of data processing, computer mapping, cartography, and instrument design and fabrication. Detailed descriptions are available of laboratory facilities for physical geography and geotechnical studies, cartography and computer mapping, and other services and facilities. While the main cartographic interest within the department is in computer mapping, a Cooperative Program in Cartography with Queen's University, Kingston, Ontario allows for broader exposure to this subfield. Carleton University's location in Ottawa also provides access to more than 50 specialized libraries, many of which are in Federal Government Departments. The National Library, National Archives, and Statistics Canada are among the important data sources.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The minimum requirement for the M.A. is five credits of which the thesis has a value of two. Registration may begin in the fall, winter, or summer term. The minimum *admission requirement* is normally a B.A. or B.Sc. Honours degree or its equivalent with upper second (B) standing. Other applicants may be accepted into a Qualifying Year program.

Financial Assistance: Carleton University offers graduate scholarships and assistantships in amounts comparable to those available from other Ontario universities. Other fellowships and scholarships are available from the Ontario Government, Canada Council, National Research Council, Central Mortgage and Housing Corporation, and other organizations.

FACULTY INTERESTS:

Duncan M. Anderson, M.Sc., Western Ontario, 1962, Associate Professor—land use: recreational and rural land classification and planning; energy-sensitive land use planning, landscape perception

David Bennett, Ph.D., Liverpool, 1972, Associate Professor—geography of social well-being, spatial variations in quality and equality of life; geography of income in Canada; geography and philosophy; medical geography; population studies

John Clarke, Ph.D., Western Ontario, 1970, Professor—historical geography of Eastern Canada: archives and statistical aspect; rural settlement in developing areas (primarily Canada); population change, ethnic origins, land tenure systems and land speculation in Ontario; urban historical geography

279

Barbara E. Farrell, M.A., Carleton, 1978, Map Librarian—cartography, cartographic and geographic education

Michael F. Fox, M.A., Carleton, 1973, Assistant Professor—intra-urban location, instructional development and interpretation of remote sensing data

J. Peter Johnson, Jr., Ph.D., McGill, 1964, Professor—glacial geomorphology, low-temperature mass movement, development and history of exploration in northern regions

David B. Knight, Ph.D., Chicago, 1976, Professor—the role of territory and territoriality in conflict situations, self-determination as a geopolitical force; geography of the mind, and mental maps; authority and ideology and landscape impact; cultural-historical and political geography of developing areas; regional foci on Canada, Southern Africa, and the Southwest Pacific

Gordon C. Merrill, Ph.D., UC, Berkeley, 1957, Professor—social and cultural geography of the Caribbean area; current research: developing countries of the Third World, particularly Swaziland, Lesotho, and Botswana, with emphasis upon the role of non-governmental agencies in the development process

D. Monahan, M.A., Carleton, 1976, Adjunct Professor, Chief of Geoscience Mapping, Department of Fisheries and Oceans—oceanic bathymetry; continental shelf and deep ocean physiography; near-shore geomorphic processes; application of active remote sensing in coastal waters; marine cartography

R.O. Ramseier, D.Sc., Laval, 1976, Adjunct Professor—growth, classification, material properties and engineering applications of floating ice; remote sensing of ice, snow, and oceans

D. Michael Ray, Ph.D., Chicago, 1965, Professor—system growth and spatial dynamics; urban and regional development in Canada; quantitative methods

Mark W. Rosenberg, Ph.D., London School of Economics, 1980, Assistant Professor—spatial effects of health care policy in Canada; the locational behavior of physicians, theoretical and practical problems of locating small-scale public facilities

Michael W. Smith, Ph.D., British Columbia, 1973, Associate Professor—permafrost; microclimatology; analysis of soil thermal and moisture regimes; environmental problems of northern development

D.R.F. Taylor, Ph.D., Edinburgh, 1966, Professor—spatial analysis, regional and rural development in the Third World countries, especially in Africa; applied aspects of geographic information systems and computer-assisted cartography; areas of special interest: regional and rural development, tourism and its role in development and education; cartography, especially applied aspects of computer-assisted cartography, and application of the TELIDON system

Gordon D. Taylor, M.A., British Columbia, 1950, Adjunct Professor, Assistant Director, Research and Analysis, Office of Tourism, Federal Government—geography of recreation and tourism, tourism marketing and development in Canada and internationally

J. Kenneth Torrance, Ph.D., Cornell, 1968, Associate Professor—chemical, mineralogical, and physical influences on the geotechnical behavior of clay soils with special reference to the post-glacial clays; modification of soil behavior; soil freezing and frost heave; vegetation establishment on mine waste areas

John E. Tunbridge, Ph.D., Bristol, 1971, Associate Professor—evolution of contemporary urban distributions from pre-industrial antecedents; historical and cultural heritage and conservation issues, particularly in the urban context

A. Iain Wallace, D.Phil., Oxford, 1971, Associate Professor—industrial geography, especially in the resource sector; regional economic development; freight transportation; the economic geography of Canada; philosophy and ideology in economic geography

Thomas P. Wilkinson, Ph.D., Newcastle upon Tyne, 1972, Associate Professor—sediment, solute and bed-load dynamics in streams; Quaternary palaeogeography and hydrology of the lower Ottawa Valley; landform morphometry; environment and land use

Peter J. Williams, Fil.Dr., Stockholm, 1969, Professor—properties and behavior of earth materials, especially physical and thermal properties of freezing soils; geotechnical application of such studies: highways, pipelines, etc.

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Conlon, Paul J. (cooperation with Civil Engineering). "The Influence of Geochemical Variables on Selected Engineering and Electrical Properties of Resedimented Leda Clay," 1983.* Mf., National Library, Ottawa.

Master's:

Burn, Christopher R. "Investigations of Thermokarst Development and Climatic Change in the Yukon Territory," 1983.* Mf., National Library, Ottawa.

Carmichael, John A. "1978: An Unusual Ice Year in Lancaster Sound," 1983.

Gordanier, Deborah A. "The Settlement of Augusta Township, Upper Canada, 1783-1840," 1982.* Mf., National Library, Ottawa.

Graham, Douglas D. "A Comparison of Active Layer Thickness and Surface Spectral Signature at Tuktoyaktuk and Inuvik, Northwest Territories, Canada," 1983.* Mf., National Library, Ottawa.

Harris, Jeffrey R. "Landsat Lineament Study of the Lake Temiskaming Area (Ontario and Quebec)," 1982.* Mf., National Library, Ottawa.

Hornsby, John K. "Mapping Surficial Geology by Landsat: An Investigation into Variations in Spectral Response Patterns," 1983.* Mf., National Library, Ottawa.

Huffman, Edward C. "Agricultural Land Use Systems: A New Approach to Classification and Inventory," 1983.* Mf., National Library, Ottawa.

McDonald, John F. "An Examination of the Forces Affecting the Locational Decisions of Physicians in Ottawa: 1875-1915," 1983.* Mf., National Library, Ottawa.

McKercher, Robert D. "Commercial Accommodation Preferences in Ottawa, Summer 1982," 1983.* Mf., National Library, Ottawa.

Newman, Mary-Jane. "Forecasting Springmelt Floods for the Rideau River at Ottawa," 1982.* Mf., National Library, Ottawa.

Paré, Dominique G. "Application of Heavy Mineral Analysis to Problems of Till Provenance Along a Transect from Longlac, Ontario, to Somerset Island," 1983.* Mf., National Library, Ottawa.

Sayer, Robert B. "A Sensitivity Mapping Scheme Based on Ecological Land Surveys: Case Study, Wood Buffalo National Park," 1983.* Mf., National Library, Ottawa.

University of Guelph

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., M.Sc.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 5

CHAIRMAN: M.R. Moss

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Committee, Department of Geography, University of Guelph, Guelph, Ontario, Canada N1G 2W1
Telephone (519) 824-4120, ext. 2171

PROGRAMS AND RESEARCH FACILITIES: The M.A. program emphasizes rural studies. It covers a wide range of faculty interests including agricultural geography and land use, landscape evolution and settlement, resource management, and social geography and rural planning. The University Library is especially strong in nineteenth and twentieth century rural sources and the Department has an extensive agri-data bank. There is close cooperation with the personnel and resources of the Ontario Agricultural College and other related academic units.

The M.Sc. program emphasizes a physical, quantitative approach including both field and laboratory experimentation and measurement. Areas of faculty interest include slope stability and strength of landforming materials; aeolian sediment transport; periglacial processes; Quaternary landforms; coastal processes; and vegetation-geomorphic interrelationships. The department has fully equipped geomorphology labs. There is close cooperation and interaction with geology and soil science faculty in the Department of Land Resource Science and with Agricultural Engineering (Hydrology).

Students have the opportunity to combine work in Geography with the Resource Development specialization in the School of Rural Planning and Development. Two programs are available, a thesis program and a non-thesis program.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Trimester system. Admission requirements: a B average in honors Geography or equivalent. Financial aid in the form of Teaching Assistantships ($4700 per year) with additional support from research funding and scholarships.

STAFF:

Gerald T. Bloomfield, Ph.D., Nottingham, 1964, Professor—urban-industrial, transport, New Zealand

Fredric A. Dahms, Ph.D., Auckland, 1966, Professor—geography and planning, historical geography of settlements

Robin G. Davidson-Arnott, Ph.D., Toronto, 1975, Associate Professor—geomorphology, coastal studies

Barry D. Fahey, Ph.D., Colorado, 1971, Associate Professor—periglacial geomorphology, permafrost

John E. FitzGibbon, Ph.D., McGill, 1977, Associate Professor—hydrology, environmental impact, rural planning (joint appointment with University School of Rural Planning and Development)

Anthony M. Fuller, Ph.D., Hull, 1972, Associate Professor—agricultural, rural development, Italy (joint appointment with University School of Rural Planning and Development)

G. Patrick Gough, M.A., Wisconsin, 1960, Assistant Professor—manufacturing, transportation

Alun E. Joseph, Ph.D., McMaster, 1976, Associate Professor—delivery of services, social geography, planning

Philip D. Keddie, Ph.D., Waterloo, 1976, Associate Professor—agricultural, rural settlement, Canada

Kenneth Kelly, Ph.D., Toronto, 1968, Associate Professor—cultural, historical geography of Ontario, Bengal

Reid D. Kreutzwiser, Ph.D., Western Ontario, 1978, Associate Professor—resource management, recreation

Julius A. Mage, Ph.D., Waterloo, 1974, Associate Professor—agricultural, rural Canada

Michael R. Moss, Ph.D., Sheffield, 1973, Associate Professor—applied biogeography, biotic resources, landscape ecology, land systems

William G. Nickling, Ph.D., Ottawa, 1976, Associate Professor—geomorphology, aeolian sediment transport, slopes

Barry E. Smit, Ph.D., McMaster, 1977, Associate Professor—agricultural, land use analysis, rural planning

Kok-Chiang Tan, Ph.D., London, 1966, Associate Professor—political, economic development, Southeast Asia, China, the Third World

Jacqueline S. Wolfe, Ph.D., McMaster, 1976, Associate Professor—political, rural planning (joint appointment with University School of Rural Planning and Development)

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Amin, Shahalam. "A Littoral Drift Model and Sediment Budget for the Shore of Southwestern Lake Ontario and Implications for Shoreline Protection," 1982.* Mf., National Library, Ottawa.

Dagesse, Daryl. "Cold Temperature Mechanical Weathering of Argillaceous Carbonate Sedimentary Rocks from Southern Ontario," 1983.* Mf., National Library, Ottawa.

Lavigne, Nicole. "Population and Farmland Area in Ontario: An Examination of the Changes at the Township Level," 1983.* Mf., National Library, Ottawa.

Milne, Robert. "Forest Dynamics and Geomorphic Processes on the Niagara Escarpment, Collingwood," 1982.* Mf., National Library, Ottawa.

Randall, David. "Changes in the Form and Energy Spectra of Storm Waves across a Nearshore Bar System, Wendake Beach, Nottawasaga Bay, Ontario," 1982.* Mf., National Library, Ottawa.

The University of Manitoba

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1951 GRADUATE PROGRAM FOUNDED: 1953

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82–6/30/83: 1 M.A., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 18 M.A. 4 Ph.D.
NOT IN RESIDENCE: 7 M.A. 5 Ph.D.

ACTING HEAD: W. Norton

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Chairman, Graduate Studies Committee, Department of Geography, The University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2
Telephone (204) 474–9256

PROGRAMS AND RESEARCH FACILITIES: Graduate research opportunities are available in many aspects of human geography, notably in such fields as agricultural, cultural, historical, population, rural settlement, urban and industrial geographies, and in land utilization and resource management, regional development, tourism and recreation, and environmental cognition. In physical geography, research training exists mainly in climatology, geomorphology, hydrology, and associated studies of natural hazards. Facilities are available for research using computer cartography. Most graduate research focusses on western Canada, but recent theses have included India and Africa. Studies of Winnipeg and other Manitoban settlements, especially in the North, continue to be numerous. Ample scope exists for research on recreation and other resources of Manitoba, the cultural and historical geographies of the Prairies, and the spectrum of economic activities in this region. Energy balance and hydroclimatological investigations, erosion and mass wasting studies of slopes, and fluvial geomorphology dominate research endeavours in Manitoban physical geography.

The University's AMDAHL V7 computer has extensive geographic representation devices, and is available to graduate students through departmental terminals including one with interactive graphics capabilities. The Department has Olivetti-Underwood 652 and 101 programmers and two microprocessors. It possesses a geomorphological research laboratory, cartographic facilities, and a map library. The Dafoe, Science and Engineering libraries house approximately 900,000 volumes and possess a large range of materials pertinent to geographical research. Interdisciplinary units on campus include the Agassiz Centre for Water Studies, the Centre for Transportation Studies, and the Natural Resource Institute. Off campus, a unique facility for those wishing to pursue research in historical geography is Winnipeg's recently acquired archives of the Hudson Bay Company.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: M.A. program: 1 year of courses (in Geography and related fields) plus thesis. Admission with 'B' standing in Hons. or advanced Geography degree. Admission with 'B' in B.A. (Gen.) degree, Geography major, requires a pre-M.A. year of courses. Ph.D. program: 2 years of courses plus thesis; admission with M.A./M.Sc. Geography. Graduate student support programs in the form of University Fellowships and graduate teaching and service assistantships are available up to $7300.

STAFF:

J. S. Brierley, Ph.D., Edinburgh, 1972, Associate Professor—agricultural, Caribbean, Western Canada
W. J. Brown, Ph.D., London, 1965, Associate Professor—geomorphology, natural hazards
A. J. W. Catchpole, Ph.D., Durham, 1966, Professor and Head—climatology, climatic change
R. H. Foster, Ph.D., UC, Berkeley, 1975, Assistant Professor—urban planning, transportation, Canada and U.S.A.
B. Kaye, Ph.D., London, 1977, Associate Professor—historical, Western Canada, cultural, Europe
Z. Mieczkowksi, Ph.D., Moscow, 1954, Associate Professor—tourism and recreation, U.S.S.R.
J. D. Milton, Ph.D., Western Australia, 1978, Associate Professor—climatology
D. W. Moodie, Ph.D., Alberta, 1972, Professor—historical, cultural, Western Canada
W. Norton, Ph.D., McMaster, 1973, Associate Professor—historical settlement geography, spatial analysis
J. R. Rogge, Ph.D., London, 1968, Associate Professor—population, Africa, Middle East
J. I. Romanowski, Ph.D., Washington, 1970, Assistant Professor—land resource management
H. L. Sawatzky, Ph.D., UC, Berkeley, 1967, Associate Professor—land utilization and planning, recreation, Latin America
V. Smil, Ph.D., Pennsylvania State, 1972, Professor—energy and the environment, China
G. C. Smith, Ph.D., McMaster, 1974, Associate Professor—environmental cognition, quantitative methods
L. P. Stene, Ph.D., Western Ontario, 1976, Assistant Professor—geomorphology
R. C. Tiwari, Ph.D., Reading, 1964, Associate Professor—urban, India, Africa
D. Todd, Ph.D., London, 1975, Associate Professor—regional development planning, economic

PROFESSOR EMERITUS:

T. R. Weir, Ph.D., Wisconsin, 1951, Professor—Anglo America, remote sensing, cartography

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Gill, Alison Margaret. "Residents' Images of Northern Canadian Resource Communities," 1982.*

Master's:

Bentham, Barry John. "The Role of the Tourist Industry in Regional Development Planning," 1983.*

McGill University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1945 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.A., M.Sc., Ph.D., Diploma in Environmental Remote Sensing

GRANTED 7/1/82-6/30/83: 3 Master's, 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 20 Masters 7 Ph.D.
NOT IN RESIDENCE: 6 Masters 11 Ph.D.

CHAIRMAN: J. Brian Bird

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Affairs, Department of Geography, McGill University, 805 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2K6
Telephone (514) 392-5700

PROGRAMS AND RESEARCH FACILITIES: The Department offers integrated programs of study within the following fields. The major locations of research are northern Canada, Quebec, and the Caribbean. The research and supervision interests of the department fall into the following clusters: (A) Urban Geography: emphasizing studies of the social milieu of the multi-cultural city; of the service location-allocation problem; of spatial interaction; and of the climatic environment. (B) Geography of Development: emphasizing studies around the themes of "development," "underdevelopment," and "unequal development" in their historical context and with contemporary application; centre-periphery relationships; and the cultural, ecological, economic, and political responses to such relationships. (C) Terrain Analysis: emphasizing studies of fluvial and landslide processes, and stream and slope development; of glacial and periglacial processes and landforms; of Quaternary landscape evolution; and of coastal processes. (D) Environmental Studies: emphasizing biogeography, including waste-land revegetation and plant distributions; hydrology, including water quality and snowmelt; soils, including pedogenesis and nutrient cycling; permafrost; climatology, including bio- and urban climatology; and savanna ecology. (E) Remote Sensing: emphasizing studies of the use of remote sensing techniques in the analysis of the physical landscape and patterns of human activity. (F) Recreation and Tourism: emphasizing studies of the spatial and environmental features of recreation and tourism systems at the international, regional, and local levels, with particular attention to impact on land use, carrying capacity, local societies, cultures, economies, and ecology, the development of management strategies, and recreation demand and travel behavior. (G) Cultural Ecology: emphasizing studies of cultural adaptation to urban and nonurban environments; of land use and resource utilization from the perspectives of energy flow and economic, social, and ideological behavior; the ecology of tropical agriculture; land claim problems; and northern hunting systems.

The Department has close association with the Centre for Developing-Area Studies and the Urban Planning Program, and the Centre for Northern Studies and Research.

The Geography Department is located in a new building, has excellent cartographic and remote sensing facilities, and maintains biogeography, hydrology, pedology, and geomorphology research laboratories with a full range of equipment. The Tropical Research Room and University Map and Air Photo Library are located within the same building, as is the University Computer Centre. The Department has ready access to the materials and facilities of the Centre for Northern Studies and Research and the Centre for Developing Area Studies. Many members of staff participate fully in the work of these Centres. The University maintains field stations at Mount St. Hilaire (close to McGill), Schefferville (northern Quebec), and Bellairs (Barbados). These stations can provide accommodation, facilities, and support for research in any field.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Graduate studies are administered by the Faculty of Graduate Studies and Research and a Departmental Graduate Affairs Committee; admission requirement is that of Honours degree (Canada) or equivalent specialization (U.S.)—a qualifying year is possible; Master's degree requires three resident sessions, while Ph.D. requires two years in addition to Master's degree; M.Ed. is conducted in conjunction with the Faculty of Education; all degrees (except M.Ed.) require thesis; normally 12 or more departmental assistantships (full or half-time) and research assistantships are awarded: in 1982-83, Master's $6070 and Ph.D. $6300 for 8 months, 12 hours work per week; competitive summer stipends of up to $1000; assistance is also available for fieldwork through research project funds. The Diploma Program requires one year including research paper.

STAFF:

Warwick Armstrong, Ph.D., Victoria, New Zealand, 1970, Associate Professor—resource and development, Third World (Latin America)

J. Brian Bird, M.A., Cambridge, 1949, Professor and Chairman—geomorphology, Arctic and Caribbean

J. H. Bradbury, Ph.D., Simon Fraser, 1977, Assistant Professor—economic, Canada

Michael A. Carson, Ph.D., Cambridge, 1967, Professor—engineering geomorphology, with special reference to landslides and fluvial processes

R. Norman Drummond, Ph.D., McGill, 1965, Associate Professor—cartography, Quebec

Gordon Ewing, Ph.D., McMaster, 1971, Associate Professor—urban, behavioral

Theo L. Hills, Ph.D., McGill, 1967, Professor—cultural ecology, Caribbean

W. B. Kemp, M.A., Michigan State, 1962, Auxiliary Professor—human ecology

John E. Lewis, Ph.D., Illinois, 1972, Associate Professor—bioclimatology, physiological climatology, urban climatic environments

Jan Lundgren, Ph.D., Stockholm, 1964, Associate Professor—economic development, Caribbean and Quebec

Thomas Meredith, Ph.D., Cambridge, 1979, Assistant Professor—biogeography

T. R. Moore, Ph.D., Aberdeen, 1971, Associate Professor—soils

L. Müller-Wille, D. Phil., Westfalische Wilhelms-Universitat, 1971, Associate Professor—polar

Sherry Olson, Ph.D., Johns Hopkins, 1965, Associate Professor—social, urban

John T. Parry, Ph.D., McGill, 1965, Professor—air photo interpretation, Canada

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Bail, Pierre. "Problèmes géomorphologiques de l'englacement de la transgression marine pléistocènes en Gaspésie sud-orientale," 1983.

Brouillette, Normand. 'Le développement industriel d'une région du proche hinterland québécoise: la Mauricie, 1900-1975," 1983.

Master's:

Daoust, Mario. "Etudes des pluies acides à Schefferville, N.Q., et de la possibilité de leur associations à un transport atmosphérique de polluants sur de longues distances," 1982.

Lapointe, Michel. "Migration Patterns and Meander Trace Styles of the Rouge and Diablo Rivers, near St. Jovit, P.Q.," 1983.

Penrose, Janet M. "The Relationship between Economic Integration and Cultural Transition: The Case of The Finnish Sami," 1982.

Graduate Diplomas:

Gouverneur, H. "Investigations on Channel Pattern Changes of the Mackenzie River Delta, East Channel Area (NWT) between 1947 and 1974," 1981.

Weiss, Christina. "Comparison of Air-photos and Radar Images in Regard of Lineament Analysis," 1981.

Williams, Mark G. "Temporal Variations in the Detectability of Land Systems as Seen on Landsat Imagery, Maralal, Kenya," 1983.

McMaster University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1948 GRADUATE PROGRAM FOUNDED: 1954

DEGREES OFFERED: M.A., M.Sc., Ph.D.,

GRANTED 7/1/82-6/30/83: 7 Master's, 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 14 Masters 14 Ph.D.
NOT IN RESIDENCE: 4 Masters 7 Ph.D.

CHAIRMAN: Michael J. Webber

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Chairman,
Department of Geography, McMaster University, 1280 Main Street West, Hamilton,
Ontario, Canada L8S 4K1
Telephone (416) 525-9140, ext. 4534

PROGRAMS AND RESEARCH FACILITIES: The Department is part of the Faculty of Science and is affiliated with the Faculty of Social Science. Its graduate program is built around diverse research interests in both physical and human geography. The fields of specialization include the following:

Climatology: Research encompasses field measurement and modelling the effects of atmospheric pollutants on radiative transfer, and energy balance and subsurface thermal and moisture regimes above permafrost and wetlands.

Geomorphology: Karst and coastal geomorphology are emphasized with secondary interests in fluvial and slope processes, particularly in northern and mountain environments, and Quaternary studies.

Hydrology: Hydrology research encompasses field investigations and computer modelling of snow, ice, and permafrost; and the temporal and spatial structures of hydro-meteorological and water quality variations in lake, wetland, and urban areas.

Pedology: Pedology involves mapping, sampling, and analyzing the soil properties related to genetic or practical aspects of land use.

Remote Sensing: Remote sensing provides geographical analyses of information obtained from aircraft and spacecraft using measurements made in the visible infrared and microwave regions of the electromagnetic spectrum.

Agricultural Geography: Agricultural geography at McMaster concentrates on spatial aspects of agricultural production, including analysis of agricultural land use change, loss of farmland, migration of farmers from urban fringe areas, and land use competition in urbanizing regions.

Behavioral Geography: Behavioral geography emphasizes the importance of individual cognition and evaluation processes in decisions and behavior.

Planning: Urban planning covers such topics as the location of mental health care centers, quantification of the effects of transportation noise on residential areas, and procedures to identify optimal locations for various urban functions.

Regional Analysis: Regional specialization focusses on spatially defined social systems and recognizes interdependencies and linkages among demographic, sociocultural, economic, and ecological systems. Energy-related research is also carried out.

Theoretical Urban Economic Geography: Theoretical urban geography examines several fundamental issues about the nature of cities, including models of abstract urban areas, programming and simulation models of urban areas, and aspects of the urban and regional political economy of advanced capitalist countries.

Cultural Geography: Cultural geography concentrates on the taking up of land in eastern North America and the impact of political factors on administrative structuring of space

The department occupies the top floors of two adjacent buildings. The University Libraries, Computer Centre, and Graduate Club are all within a few minutes' walk across a pedestrian campus. The University Map Library and the Urban Documentation Centre are located in the same building as the department. General department facilities include two large rooms with carrels and other comfortable nooks for graduate student accommodation; and seminar rooms and laboratories for work in climatology, geomorphology, hydrology, pedology, and remote sensing. A technical staff provides support in wood and metal construction, drafting graphics, photography, and typing. The University's CYBER 170/730, IBM 370/145, and Hewlett-Packard 2000 and 3000 computers are readily accessed. Several Commodore PET microcomputer systems are owned by the department and may be used for computing, on-line acquisition, and word processing.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Admission Requirements:* A standing of Class I (A) or upper Class II (B plus) in previous academic work. *Financial Aid:* 1. National Research Council Fellowships. 2. C.M.H.C. Scholarships for urban-related research. 3. Canada Council Doctoral Fellowships. 4. University Scholarships. 5. Assistantships: Candidates for the Ph.D.: from $9,000, candidates for M.A. or M.Sc.: from $7,600 (plus negotiated increases for the next academic year). Assistantships entail 10 hours per week of teaching or research during the September-April academic year. *Academic Plan:* Year, from mid-September to early April, divided into two terms.

STAFF:
Brian T. Bunting, Ph.D., London 1971, Professor—pedology
Andrew F. Burghardt, Ph.D., Wisconsin, 1958, Professor—political
John A. Davies, Ph.D., London, 1966, Professor—radiation climatology
Michael J. Dear, Ph.D., Pennsylvania, 1974, Associate Professor—urban planning
J. John Drake, Ph.D., McMaster, 1974, Associate Professor—hydrology, hydrochemistry
Ruth Fincher, Ph.D., Clark, 1980, Assistant Professor—urban political
Derek C. Ford, D. Phil., Oxford, 1963, Professor—karst and mountain geomorphology, Quaternary chronology
R. Louis Gentilcore, Ph.D., Maryland, 1950, Professor—historical
Frederick L. Hall, Ph.D., Chicago, 1972, Associate Professor—transportation, urban planning (joint appointment with Civil Engineering)
Philip J. Howarth, Ph.D., Glasgow, 1968, Professor—remote sensing, glacial geomorphology

Leslie J. King, Ph.D., Iowa, 1960, Professor—urban growth models

Kao-Lee Liaw, Ph.D., Clark, 1973, Associate Professor—migration theory, linear models

Stephen C. Lonergan, Ph.D., Pennsylvania, 1981, Assistant Professor—energy, regional science

S. Brian McCann, Ph.D., Cambridge, 1961, Professor—coastal geomorphology and sedimontology

George Papageorgiou, Ph.D., Ohio State, 1970, Professor—urban, spatial models

Lloyd G. Reeds, Ph.D., Toronto, 1956, Professor—agricultural

Wayne R. Rouse, Ph.D., McGill, 1965, Professor—heat and water balance climatology

S. Martin Taylor, Ph.D., British Columbia, 1974, Associate Professor—behavioral

Michael J. Webber, Ph.D., Australian National, 1967, Professor and Chairman—location theory, political economy of regional development

Ming-ko Woo, Ph.D., British Columbia, 1972, Professor and Associate Chairman—hydrology

Harold A. Wood, Ph.D., Toronto, 1958, Professor—Latin America

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Marsh, Philip. "Ripening Processes and Meltwater Movement in Arctic Snowpacks," 1982.

Master's:

Aikins, Muriel. "The Effects of Life Cycle and Length of Residence on Residential Stress," 1983.

Beeson, David A. "An Explanation of Intraurban Consumer Behavior," 1982.

Crann, David. "Soil CO_2 Measurements and Their Application in Karst Studies," 1982.

Dale, Janis. "Physical and Biological Zonation of the Sub-Arctic Tidal Flats in S.E. Baffin Island," 1982

Foot, Simon. "Unequal Exchange Theory and Measurement," 1983

Manion, Joseph. "Home Support Services in Hamilton, A Geographical Analysis of Public Policy," 1983.

Steer, Peter. "Hydrology of a Slope in the High Arctic," 1982.

Memorial University of Newfoundland

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1968

DEGREES OFFERED: M.A., M.Sc.

GRANTED 7/1/82-6/30/83: 1

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 8

HEAD: Dr. M. Staveley

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Michael Staveley, Department of Geography, Memorial University of Newfoundland, Elizabeth Avenue, St. John's, Newfoundland, Canada A1B 3X9
Telephone (709) 737-7417/8

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography at Memorial University offers programmes leading to the M.A. and M.Sc. degrees. Students may commence their programme in Fall, Winter, or Spring semesters, the programme of study and research normally requiring two years of full-time work. Candidates are required to take at least six one-semester graduate courses in the programme agreed upon with the Head of the Department and a supervisor appointed from the faculty. Courses in other disciplines may be taken and candidates may be required to take an examination in a foreign language should the research require it. The second year of study will normally be devoted to the writing of a thesis.

The University map library serves as a depository for Canadian Government maps and maintains an extensive collection of maps, atlases, and aerial photographs. Included within the Department are a fully equipped and professionally staffed cartographic production laboratory and photo-mechanical reproduction services. The Department is currently developing an automated mapping system. Hardware includes a modern digitizer, a small flat-bed plotter, and a terminal linked to the University VAX 11/780 computer. Access is also available to a large IBM 370 system with a Calcomp 960 drum plotter. A variety of mapping and statistical software is available. Departmental research laboratories also include facilities for palynology, soil analysis, and flume and rainfall simulator studies with a supporting technical workshop. Equipment for field research includes a departmental vehicle.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Memorial University operates on a semester system. Admission requires a Bachelor's degree with Honours or its equivalent. Applicants without this qualification may be admitted with the requirement that additional undergraduate courses be taken at the discretion of the Department and with the approval of the Committee on Graduate Studies. A certificate of proficiency in English is required if the applicant's native language is other than English or if he has not received his undergraduate instruction in English.

Limited fellowships—bursaries and grants are available from the Province, the University or the University's Institute of Social and Economic Research. The Department also provides teaching and research assistantships of varying amounts according to ability and need.

STAFF:

William H. Allderdice, Ph.D., Columbia, 1972, Associate Professor—economic, rural, Latin America

Peter E. Ashmore, M.Sc., Alberta, 1979, Lecturer—hydrology, fluvial geomorphology

Colin E. Banfield, Ph.D., Wales, 1970, Associate Professor—climatology, air pollution

Karyn G. Cooper, M.Sc., McGill, 1978, Assistant Professor—biogeography

Dianne L. Draper, Ph.D., Waterloo, 1977, Associate Professor—resource management

Simon M. Evans, Ph.D., Calgary, 1976, Associate Professor and Co-ordinator at Corner Brook—cultural, Western Canada

Geoffrey H. Farmer, M.A., Alberta, 1967, Associate Professor—Caribbean

David Forrest, M.A., Queen's, 1981, Lecturer—cartography, computer mapping

Gordon Handcock, Ph.D., Birmingham, 1979, Associate Professor—rural settlement

Alan G. Macpherson, Ph.D., McGill, 1969, Professor—historical, Northern North Atlantic

Joyce Brown Macpherson, Ph.D., McGill, 1966, Associate Professor—geomorphology, air photo interpretation, palynology

John J. Mannion, Ph.D., Toronto, 1971, Associate Professor—rural settlement, cultural

Roberts J. Mednis, Ph.D., Boston, 1971, Assistant Professor—biogeography, conservation, subarctic

Keith S. Nicol, M.Sc., British Columbia, 1977, Assistant Professor—climatology

W. Stan. Nowak, Ph.D., London, 1966, Associate Professor—fisheries, economic oceanography, Europe

Robert J. Rogerson, Ph.D., Macquarie, 1979, Associate Professor—glacial geomorphology, hydrology, Arctic

Chesley W. Sanger, M.A., Memorial, 1973, Associate Professor—historical, urban

Maurice J. Scarlett, Ph.D., Pittsburgh, 1970, Professor—economic, transportation

Christopher Sharpe, Ph.D., Toronto, 1976, Associate Professor—urban, housing, statistical analysis

Michael Staveley, Ph.D., Alberta, 1973, Associate Professor and Head of Department—historical, population, Soviet Union

Keith J. Storey, Ph.D., Western Ontario, 1977, Associate Professor—economic, regional development

William F. Summers, Ph.D., McGill, 1957, Professor—conservation, Newfoundland

Roger W. White, Ph.D., North Carolina, 1972, Associate Professor—economic, theory, methodology

Clifford H. Wood, M.S., Idaho, 1972, Associate Professor—thematic and historical cartography

William H. Yoxall, Ph.D., Dublin, 1975, Associate Professor—fluvial and experimental geomorphology

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:

Oliver, Elizabeth D. "The Rebuilding of the City of St. John's after the Great Fire of 1892: A Study in Urban Morphogenesis," 1983.

University of Ottawa

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1951 GRADUATE PROGRAM FOUNDED: 1954

DEGREES OFFERED: M.A., Ph.D.

GRANTED 7/1/82-6/30/83: 3 M.A., 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 28 M.A. 9 Ph.D.
NOT IN RESIDENCE: 9 M.A. 3 Ph.D.

CHAIRPERSON: Peter G. Johnson

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Committee, Department of Geography, University of Ottawa, 165 Waller, Ottawa, Ontario, Canada K1N 6N5
Telephone (613) 231-2395/2396

PROGRAMS AND RESEARCH FACILITIES: The Geography program emphasizes 1) economic, urban, rural and social geography; 2) geomorphology, biogeography and resource management; 3) computer cartography and remote sensing; and 4) quantitative methods. There is a strong interest in applied and policy oriented work. Principal applications are in Canada, South America and South Asia.

In the M.A. program, two semesters of seminars and supervised readings are followed by an examination of the thesis proposal and thesis. The Ph.D. Geography program is composed of two major research papers prepared under supervision (one of which may be replaced by course work), a comprehensive examination, dissertation proposal, and dissertation.

Students have access to one of the best-equipped university computer centers in Canada, including facilities for computer cartography, as well as a large map and air photo library. Ottawa furthermore offers numerous specialized federal government libraries and the facilities of embassies and consulates. The campus is located near these facilities in the city center.

294

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Located in North America's only major bilingual university (English and French), the Department offers courses and supervision in both English and French. The bicultural character of the Department provides the benefit of exposure to both the English-North American and French schools of thought. Unilingual candidates are admitted to the program in Geography, but are expected to acquire a basic knowledge of the second official language of Canada. _Admission Requirements:_ Minimum of B (second class) standing in previous academic work. Exceptions are considered. _Financial Aid:_ Up to $7000 for Ph.D. students; up to $5000 for M.A. students. Funds are derived from teaching assignments, research assistantships, staff contracts and grants, and Graduate School Scholarships. Applicants seeking departmental funding are required to make applications to external scholarships, e.g., SSHRC, NRC, CMHC, OGF, etc. _Application Deadline:_ To be considered for funding, applications must be received by March 15.

STAFF:

*_Jacques Baudry, D. 3° cycle, Rennes, 1978, Visiting Professor_—landscape ecology, agroecosystems

*_Vincent Berdoulay, Ph.D., UC, Berkeley, 1974, Associate Professor_—social, behavioral, history of geographic thought

*_David Douglas, M.A., Carleton, 1969, Assistant Professor_—computer mapping

*_Hugh French, Ph.D., Southampton, 1967, Professor_—permafrost geomorphology, Arctic Canada

*_Hugues Gagnon, D. d'Université, Paris I, 1976, Associate Professor_—remote sensing, soil stability, land use planning, Eastern Ontario, Western Quebec

*_Marie-Anne Geurts, D. ès Sc., Louvain, 1975, Associate Professor_—geomorphology, palynology

*_Peter Harrison, Ph.D., Washington, 1973, Adjunct Professor_—resource management, coastal management, regional planning and analysis, public economy

*_Peter Johnson, Ph.D., Leeds, 1969, Associate Professor and Chairman_—geomorphology, Yukon Territory

Edmond Kayser, D. 3e cycle, Strasbourg, 1974, Assistant Professor—transportation and communications, Western Europe

*_Daniel Lagarec, Ph.D., Laval, 1980, Assistant Professor_—geomorphology, Quaternary paleoclimatology, periglacial geomorphology

André Langlois, Ph.D., Laval, 1983, Lecturer—cultural and social geography, behavioral geography

Bernard Lauriol, Ph.D., Montreal, 1981, Assistant Professor—stratigraphy and Quaternary geomorphology

Roger Needham, M.A., Western Ontario, 1976, Lecturer—coastal management, resources, economic geography

*_Michel Phipps, D. ès Sc., Toulouse, 1969, Associate Professor_—ecology, analysis and planning of biotic resources

*_Roger Roberge, Ph.D., Clark, 1972, Associate Professor_—industrial location, geography of invention and innovation

*_Denis St-Onge, D. ès Sc., Louvain, 1962, Professor_—applied geomorphology, earth science and planning

Harishankar Srivastava, Ph.D., Florida, 1961, Professor—political, South Asia

**Guy Steed, Ph.D., Washington, 1966, Professor*—economic, manufacturing, regional development

**Barry Wellar, Ph.D., Northwestern, 1969, Professor*—urban and regional development, public policy analysis, transportation

**Rolf Wesche, Ph.D., Florida, 1967, Associate Professor*—rural, economic development, South America

*Members of School of Graduate Studies

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Ansari, Salamuddin. "The Impact of the Regional Development Incentives Programme in Selected Slow Growth Areas of Canada. An Analysis of Industrial Structural Change, 1961-1978," 1983.

Harry, David. "Aspects of the Permafrost Geomorphology of Southwest Banks Island, Western Canadian Arctic," 1982.

Rees, David. "Streamwater Solute Variations in a Partially Urbanized Watershed at North Bay, Ontario," 1982.

Master's:

Ouimet, Denis. "Etude palynologique des argiles de la Mer de Champlain dans le canton de Cumberland, Est Ontario," 1983.

Tsai, Chang-Huei. "Numerical Method to Evaluate Land Suitability for Agriculture Using a Parametric Model," 1983.

Yuzyk, Ted. "Sedimentation in Lake Diefenbaker," 1983.

Queen's University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 7 Masters, 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 27 Masters 11 Ph.D.
NOT IN RESIDENCE: 10 Masters 4 Ph.D.

HEAD: Brian S. Osborne

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. J.H. McCaughey, Chairman, Graduate Committee, Department of Geography, Queen's University, Kingston, Ontario, Canada K7L 3N6
Telephone (613) 547-2796

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers programs of study leading to the M.A., M.Sc., and Ph.D. degrees. The areas of interest in which graduate work is undertaken are:

1. Urban and economic geography focusing on intra-urban geography, political economy of cities and regions, regional development and public policy, diffusion and spatial interaction.
2. Geomorphic and pedologic processes with emphasis on contemporary land forming processes, watershed analysis, pedology and soil microscopy.
3. Historical geography with particular emphasis on the exploration, settlement, and urban historical geography of Canada and North America.
4. Cartography concentrating on perception and map design, the planning of national mapping programs, and historical cartography.
5. Climatology with emphasis on micro-climatology.

The Ph.D. degree is offered in the fields of Urban-Economic Geography, Historical Geography, and Geomorphic and Pedological Processes.

The libraries at Queen's University offer very good collections in the social and physical sciences. The resources available for research on Canada are exceptional. Other research facilities include the university's IBM 4341 computer, the department's several minicomputing systems, a Calcomp plotter and other graphic devices. Departmental cartography laboratories house a Saltzman projector, a type-setting machine and a photogrammetry and photo interpretation laboratory. The Geomorphology and Climatology laboratories are well instrumented: soils equipment includes a magnetic separator, atomic absorption spectrophotometer, a differential thermal analyser, together with the equipment for a conventional wet chemical laboratory. Field reconnaissance and research facilities include a field vehicle, and instrumentation such as a deep-drill, stream gauges, field data systems, and many other items.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The Master's student entering the program with an Honours Bachelor's degree or equivalent is required to be in residence for a minimum period of one academic session of two semesters. For holders of the General Bachelor's degree or equivalent, two academic sessions in residence are required. The Master's program consists of either: (a) four semester courses and a thesis weighted as one half of the total program, or (b) six semester courses plus a thesis weighted as one quarter of the total program.

Admission to the Ph.D. program requires a Master's degree or its equivalent. Doctoral students are required to complete a minimum of four semester courses, to take a comprehensive examination, and to complete a dissertation.

Teaching assistantships in undergraduate geography courses are awarded for the eight-month academic year (two semesters) on a competitive basis. Geography graduate students are eligible to compete for university fellowships. In 1983-84, the level of support for incoming full-time graduate students, from all sources, will not be less than $6700.

FULL-TIME AND PART-TIME STAFF:

J. B. Cannon, Ph.D., Washington, 1969, Assistant Professor—economic, regional development

H. W. Castner, Ph.D., Wisconsin, 1964, Professor—cartography, map design, thematic mapping, historical cartography of Russia

J. Crush, Ph.D., Queen's (pending), Post-doctoral Fellow—Third World development, Africa

P. Filion, Ph.D., Kent (pending), Visiting Assistant Professor—transportation geography

R. Gilbert, Ph.D., British Columbia, 1974, Associate Professor—geomorphology, physical limnology and oceanography

P. G. Goheen, Ph.D., Chicago, 1970, Associate Professor—urban, historical

J. Holmes, Ph.D., Ohio State, 1974, Assistant Professor—political economy of cities and regions

W. G. Lovell, Ph.D., Edmonton, Alberta, 1980, Post-doctoral Fellow—historical, cultural, Latin America

S. Mackenzie, Ph.D., Sussex (pending), Visiting Assistant Professor—urban, social, women's studies

J. H. McCaughey, Ph.D., McMaster, 1972, Associate Professor—microclimatology

G. McGrath, M.A., Cambridge, 1960, Associate Professor—cartography, air photogrammetry and interpretation, surveying, Africa

E. G. Moore, Ph.D., Queensland, 1966, Professor—urban, behavioral, residential location and public policy

A. Nash, Ph.D., Cambridge (pending), Post-doctoral Fellow—historical demography.

B. S. Osborne, Ph.D., Southampton, 1967, Professor—human, historical, cultural

J. B. Riddell, Ph.D., Pennsylvania State, 1969, Professor—Africa, development, spatial interaction

R. I. Ruggles, Ph.D., London, 1958, Professor—historical, historical cartography, U.S.S.R.

G. K. Rutherford, Ph.D., Vollebekk, Norway, 1959, Professor—soils, agricultural, land systems analysis, tropical areas

J. Shaw, Ph.D., Reading, 1969, Professor—glacial geomorphology, sedimentology

R. Stock, Ph.D., Liverpool, 1981, Post-doctoral Fellow—regional development, medical geography, Africa

A. M. Taylor, D.Phil., Oxford, 1955, Professor Emeritus—political, technology and environment, historical

R. R. Tinline, Ph.D., Bristol, 1973, Associate Professor—medical geography, information systems, diffusion

W. J. Vreeken, Ph.D., Iowa State, 1972, Associate Professor—soils, water resources

M. H. Yeates, Ph.D., Northwestern, 1963, Professor and Dean of the School of Graduate Studies—urban, economic, regional analysis

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Rogerson, Christian. "The Casual Poor of Johannesburg, South Africa: The Rise and Fall of Coffee-Cart Trading," 1983. Mf., National Library, Ottawa.

Master's:

Aitken, Alec. "Biophysical Processes on the Intertidal Flats of Pangnirtung Fiord, Baffin Island, N.W.T.," 1982. Mf., National Library, Ottawa.

Blachford, Diane. "Spatial and Temporal Trends in the Fluvial Transport of Metals and Phosphorus in the Bow and Oldman Rivers, Alberta," 1982. Mf., National Library, Ottawa.

Earl, Catherine. "The Impact of Shopping Centres on the Central Business District of Kingston," 1982. Mf., National Library, Ottawa.

Geris, William. "Occupancy Costs and the Ex-Urban Homeowner," 1982. Mf., National Library, Ottawa.

Howes, David R. "Homeownership and the Two-Earner Family," 1982. Mf., National Library, Ottawa.

Ogilvy, Mary Ann. "Public Participation in Environmental Decision-Making: Application of the Ontario Environmental Assessment Act," 1982. Mf., National Library, Ottawa.

Tebb, Andrew C. "State Intervention in the Canadian Automotive Industry 1955-1980," 1982. Mf., National Library, Ottawa.

University of Regina

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1966 GRADUATE PROGRAM FOUNDED: 1972

DEGREES OFFERED: M.A., M.Sc.

GRANTED 7/1/82–6/30/83: 5

GRADUATE STUDENTS IN RESIDENCE: 6
NOT IN RESIDENCE: 7

HEAD: A. H. Sahir

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Head, Department of Geography, University of Regina, Regina, Saskatchewan, Canada S4S 0A2
Telephone (306) 584–4223

PROGRAMS AND RESEARCH FACILITIES: The M.A. and M.Sc. programmes include lectures, seminars, intensive field work and dissertation. The originality of the dissertation is a prerequisite for the degree. Though the programmes are individualized, students are encouraged to do interdisciplinary work. The systematic fields emphasized are urban, rural, climatology, geomorphology, economic, and resources, especially water and recreation. Adequate facilities for cartography, air photo interpretation, computer analysis, and graphics are available.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: For details write to the Head.

STAFF:

Edmund H. Dale, Ph.D., Alberta, Professor—political, political-urban, Commonwealth Caribbean

Alexander H. Paul, Ph.D., Alberta, Associate Professor—climatology, recreation, water resources, Western Canada

A. H. Sahir, Ph.D., Minnesota, Associate Professor—cultural, geographic thought, rural

David J. Sauchyn, Ph.D. candidate, Waterloo, Lecturer—physical, geomorphology, hydrology

Hans G. Schlichtmann, Ph.D., Tubingen, Associate Professor—thematic cartography, cultural, Western Europe

Adrian A. Seaborne, Ph.D., Swansea, Assistant Professor—economic, Canada

Paul Simpson-Housley, Ph.D., Otago, Visiting Assistant Professor—cultural, perception, resources,methodology

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Clyde, Raymond Elgin. "A Study of Saskatchewan Farmers' Perceptions of Hail, Drought, and Flood as Hazards to Agriculture," 1983.

Gerhart, James Gordon Thomas. "Water Resources and Municipal Water Use in Two Regions of Saskatchewan," 1983.

Lamprecht, Martin. "The Geography of Commercial Aviation in Saskatchewan," 1983.

Marchinko, Craig Robert. "The Economic Spread Effects of Two Potash Mines in Southeastern Saskatchewan," 1983.

Trithardt, Elroy Charles. "An Assessment of DREE Involvement in the Manufacturing Sector of the Saskatchewan Economy," 1983.

University of Saskatchewan

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1963

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 0 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 8 Masters 3 Ph.D.
NOT IN RESIDENCE: 0 Masters 0 Ph.D.

HEAD: R. Keith Semple

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Robert M. Bone, Chairman, Graduate Studies Committee, Department of Geography, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0
Telephone (306) 343-4305

PROGRAMS AND RESEARCH FACILITIES: The department focuses graduate training and research in the areas of regional development and environmental studies. Research is encouraged in both human and physical geography, as well as certain technical areas, with emphasis on development, locational analysis, population, urban, industrial, transportation, resources, biogeography, climatology, hydrology, geomorphology, cartography, and remote sensing.

Programs in geography may be coordinated with programs in other departments and colleges. There is close contact and special cooperation with a number of physical and social science departments.

The Department of Geography is formally in the Division of Social Sciences. It is fortunate to have lecture and seminar rooms as well as new cartographic, remote sensing, hydrology, geomorphology, climatology, and biogeography laboratories, along with faculty and student offices, located together in one unit.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan:* The academic session (divided into two terms) extends from mid-September until early April, leaving spring and summer free for conducting field work or writing research papers or the thesis.

Admission Requirements: Graduate College admission requires the equivalent of the University of Saskatchewan four year degree of B.A. or B.Sc. with a minimum of second class or B standing. Students with less than these prerequisites may be admitted on a probationary basis with department and College permission.

Financial Aid: (1983-1984). Financial assistance is available to qualified students in the Master's and the Ph.D. programmes during the academic year and the summer period. University Graduate Scholarships range from $7470 to $9960 for one year. Other financial support currently held by graduate students ranges from $3900 for Teaching and Research Assistantships to $11,500 for NSERC, SSHRC, and CMHC scholars. Support is also available from the Saskatchewan Research Council and our Teaching Fellowship program. (A 10% increase in funding is anticipated for 1984-1985.)

STAFF:

O. William Archibold, Ph.D., Simon Fraser, 1975, Associate Professor—biogeography, field methods, quantitative

William Barr, M.Sc., McGill, 1965, Professor—Arctic and Pleistocene geomorphology, Soviet arctic

Richard L. Bello, Ph.D., McMaster, 1982, Assistant Professor—microclimatology, quantitative, field techniques

Robert M. Bone, Ph.D., Nebraska, 1962, Professor and Graduate Chairman—population, northern development, migration

Aninda K. Chakravarti, Ph.D., Wisconsin, 1967, Professor—climatology, agricultural, South Asia

Ka Iu Fung, Ph.D., London, 1979, Professor—urban, cartography, remote sensing, China

John G. McConnell, M.A., Toronto, 1965, Associate Professor—historical, northern development, North America, political

Janet E. Mersey, Ph.D. (pending), Wisconsin, Lecturer—cartography, remote sensing

Edwin D. Ongley, Ph.D., Sydney, 1971, Adjunct Professor—hydrology, geomorphology

Alan G. Phipps, Ph.D., Iowa 1978, Assistant Professor—urban and regional planning, housing

James A. Pooler, Ph.D., Western Ontario, 1982, Assistant Professor—population, spatial interaction, quantitative

Ronald Rees, M.A., Toronto, 1960, Associate Professor—landscape perception, cultural, historical Europe

J. Howard Richards, Ph.D., Toronto, 1954, Professor Emeritus—land use, planning

R. Keith Semple, Ph.D., Ohio State, 1969, Professor and Head—quantitative analysis, development, locational analysis

C. Christopher Smart, Ph.D., McMaster (pending 1983), Assistant Professor—karst hydrology, fluvial geomorphology, quantitative methods

Peter Waylen, Ph.D., McMaster, 1982, Assistant Professor—hydrology, quantitative methods

Michael R. Wilson, Ph.D., Oregon, 1973, Associate Professor—biogeography, anthropogeography, cartography

New position to be announced for academic year 1983-1984—urban, planning, quantitative

Université de Sherbrooke

DEPARTEMENT DE GEOGRAPHIE

DATE FOUNDED: 1963 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.Sc.

GRANTED 1/1/82–1/1/83: 7

GRADUATE STUDENTS IN RESIDENCE: 24
NOT IN RESIDENCE: 38

CHAIRMAN: Roch Choquette

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Département de géographie, Faculte des Arts, Université de Sherbrooke, 1500 boul. Université, Sherbrooke, Québec, Canada J1K 2R1
Telephone (819) 565-4521

PROGRAMS AND RESEARCH FACILITIES: Specialization in Spatial Organization in Regional Planning, Small Towns and Communities in a Rural Environment, Remote Sensing and Cartography, Quarternary Studies, and Applied Geography. The Department has a physical geography laboratory and a remote sensing field laboratory. A cooperative research program is operated in conjunction with the Lennoxville Experimental Farm of Agriculture Canada.

The remote sensing laboratory possesses three image analysis software packages. SANIL was created for teaching purposes and developed at the laboratory. VICAR was developed by Jet Propulsion Laboratories (NASA, Pasadena) and is used for teaching and research purposes. Both are implemented on the mainframe computer of the University (ITEL AS-3/5). The third is called ARIES-II and runs on the laboratory's DIPIX image analysis system, which was developed in Canada and which is compatible with the VICAR system. Images can be transferred between the three systems.

A mobile field station, equipped with radiometric and micrometeorological instrumentation, is located in the laboratory's travel trailer and can be set up for ground truth in different field locations.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Admission Requirements:* An Honor Degree (Canada) or equivalent degree (U.S.A.). Speaking knowledge of French. *Academic Plan:* Year divided into semesters from September to May. *Financial Aid:* 13 assistantships of $2000 available each year.

STAFF:

Jean-Jacques Boisvert, D.d'U., Grenoble, 1954, Associate Professor—climatology

Ferdinand Bonn, Ph.D. (geography), Strasbourg, 1975, Professor—geopedology, biogeography, remote sensing

Richard Brochu, M.Sc. (geography), Sherbrooke, 1981, Lecturer—remote sensing

Jean Castonguay, M.A. (geography), Sherbrooke, 1974, Associate Professor—computer mapping, computer techniques

Roch Choquette, licence d'enseignement secondaire, M.A. (geography), Sherbrooke, 1970, Director of the Department of Geography, Associate Professor—teaching of geography

Jean-Marie Dubois, Ph.D. (geography), Ottawa, 1980, Professor—air photo interpretation, Quaternary geomorphology, coastal geomorphology

Robert Gagnon, Ph.D. (geography), Aix, 1971, Professor—economic, rural, quantitative

Q.H.J. Gwyn, Ph.D. (geology), Western Ontario, 1971, Professor—Quaternary geology and geomorphology, sedimentology and stratigraphy

Denis Morin, Ph.D. (geography), Liège, 1978, Assistant Professor—social, urban, population

Roger Nadeau, Ph.D. (geography), Nice, 1975, Associate Professor—tourism, recreation, regional (Quebec)

Romain Paquette, Ph.D., McGill, 1968, Professor—behavioral, geography of underdeveloped countries, geography of the Caribbean area, human ecology

André Poulin, M.A. (geography), Montreal, 1969, Professor—geomorphology, land use, man's impact on the environment

Marcel Pouliot, M.A. (geography), Laval, 1970, Associate Professor—transportation, communication, public policies, population

Léo Provencher, M.Sc. (geography), Sherbrooke, 1979, Lecturer—air photo interpretation, map interpretation

Michel Rheault, M.A. (geography), Ottawa, 1973, Assistant Professor—thematic and statistical cartography

Jean-Marie Roy, D. d'U., Grenoble, 1951, Professor—history of geographical thought, political, regional (Quebec, Canada, United States)

Alain Royer, Ph.D. (geography), Grenoble, 1981, Research Associate—remote sensing

Oleg Stanek, Ph.D. (regional and urban planning), Brno, Czechoslovakia, 1952, M.A. (economics), Prague, 1949, Professor—regional and urban planning, economics, geography of socialist countries

TITLES OF THESES COMPLETED 1/1/82-1/1/83:

Master's:

Barriere, Michel. "Les processus de localisation résidentielle dans les développements de banlieue: application à la banlieue de Sherbrooke," 1982.

Coderre, André. "Les effets du tourisme dans les pays dits 'en voie de développement;' perception du tourisme en Afrique de l'Ouest; étude du cas auprès d'étudiants africains," 1982.

Ezra, Elaine. "The feasibility of thermal inertia mapping for detection of perched water tables insemiarid irrigated agricultural lands," 1982 (co-direction at the University of California, Santa Barbara).

Gallant, Richard. "Analyse et critique des programmes d'amélioration de quartier à travers leurs applications dans six villes moyennes du Québec," 1982.

Lévesque, Johanne. "Essai d'utilisation de la thermographie aérienne nocturne en cartographie microclimatique: applications aux problèmes des gelées," 1982.

Minor, Timothy B. "Seasonal comparison of H.C.M.M. data for detection of soil moisture variability," 1982 (co-direction at the University of California, Santa Barbara).

Prévost, Christian. "Application de la télédétection satellite à l'inventaire des ressources en eau de Sahel," 1982 (co-direction à l'Université Laval).

Simon Fraser University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1965 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 6 M.A./M.Sc., 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 19 M.A. 9 Ph.D.
NOT IN RESIDENCE: 1 M.A. 3 Ph.D.

CHAIRMAN: E. J. Hickin

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Secretary, Graduate Studies Committee, Department of Geography, Simon Fraser University,

Burnaby, British Columbia, Canada V5A 1S6
Telephone (604) 291-3322

PROGRAMS AND RESEARCH FACILITIES: Students may specialize in the three basic branches of geography: cultural, economic, and physical, though considerable inter-sub-disciplinary work is also pursued. The department takes a special interest in developing theoretical and conceptual frameworks in the systematic fields of geography. Current research, in addition to work in the immediate area, is being undertaken in the United Kingdom, the U.S., and in the Canadian North.

Facilities for advanced work include well-equipped cartography, geomorphology, biogeography, and climatology laboratories. In addition the University possesses an IBM 370/155 computer, with Calcomp and Tectronics plotters.

Thesis work is currently being undertaken in the following areas: Plant Geography, Urban Social Geography, Resource Analysis, Meandering Rivers, Computer Cartography, etc.

M.A. Program consists of either 30 semester credits of course work, or 20 credits and a thesis (10 credits). Students must give evidence of their research ability by the satisfactory completion *either* of a thesis (counting for 10 credits) *or* of two extended essays based on assignments carried out as part of the work in graduate courses.

M.Sc. Program. Students must give evidence of their research ability by the satisfactory completion of a thesis and 20 hours of course work.

Ph.D. Program consists of a basically unstructured program, successful passing of a set of qualifying examinations and the completion of a dissertation.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Semester System.* Entrance to degree program possible on January 1st, May 1st or September 1st each year. Last dates for application to the semester selected are: September 30, January 31, and March 15 respectively.

M.A. Program. To gain admission student applicants must present evidence that they are adequately prepared in terms of the extent of their undergraduate training and the level of their scholarly ability. Normally, admission is granted to students who have achieved at least a "good" second class standing in their undergraduate work ("B", "B+", "A"). Students from United Kingdom universities, generally, will be accepted only if they have achieved a "first" or "upper second". In exceptional cases students may be admitted who are able to present alternative evidence of their academic ability.

M.Sc. Program. Students should normally hold a B.Sc. degree, or equivalent, in an honors program with at least a good second class standing (3.0 G.P.A.) in Geography or a related discipline; where the candidate's first degree is not in Geography, he/she should have at least 12 semester hours or the equivalent in upper division Geography courses.

Students with a general degree must have 30 semester hours or the equivalent in upper division Geography courses.

Ph.D. Program. Admission is only granted when the department has evidence that a candidate is able both to complete formal course work at the most advanced level and to produce a satisfactory dissertation.

Other requirements. In both cases the student is expected to show or acquire competence in statistical techniques, problems and principles of geographic methodology, and, in addition, a student may be directed to acquire an adequate knowledge of a language other than English which would be relevant to his/her studies.

Financial aid. The department can normally offer a total of five one-semester, part-time teaching assistantships to M.A. and M.Sc. candidates and eight assistantships to doctoral candidates. Salary rates vary, depending on the teaching load, and are from $1860 to $4340 per semester for M.A./M.Sc. candidates and $2202 to $5138 per semester for Ph.D. candidates. Continuation of assistantships beyond one semester depends upon satisfactory teaching performance. In addition, once during a program of study, a stipend at an M.A./M.Sc. rate of $2400 and at at Ph.D. rate of $2900 is usually available after three semesters of graduate work. Other forms of support may be available from time to time on specific departmental research projects.

STAFF:

W.G. Bailey, Ph.D., McMaster, 1977, Assistant Professor—climatology, agricultural micro-climatology

M.L. Barker, Ph.D., Toronto, 1972, Associate Professor—resources management, water resources

R. C. Brown, Ph.D., Michigan State, 1967, Associate Professor and Dean of Arts—agricultural geography, resources development

C. B. Crampton, Ph.D., Bristol, 1956, Professor—geology, pedology, ecology

F.F. Cunningham, Dip. Ed., Durham, F.R.G.S., Professor Emeritus—geomorphology, Latin America, relations between landscape science and landscape art

M. E. Eliot Hurst, Ph.D., Durham, 1966, Professor—Marxist and socialist approaches to human geography, aesthetics, culture and ideology

L. J. Evenden, Ph.D., Edinburgh, 1970, Associate Professor—urban and social geography

E. M. Gibson, Ph.D., British Columbia, 1970, Associate Professor—human geography of modern and post-modern societies, landscape style, Canada

R. Hayter, Ph.D., Washington, 1973, Associate Professor—regional development, manufacturing

E. J. Hickin, Ph.D., Sydney, 1971, Associate Professor and Chairman—geomorphology, quantitative and field methods

R. B. Horsfall, Ph.D., Johns Hopkins, 1969, Assistant Professor—social geography, environmental psychology

I. Hutchinson, Ph.D., Simon Fraser, 1977, Assistant Professor—biogeography

P. M. Koroscil, Ph.D., Michigan, 1970, Associate Professor—cultural, historical, Canada

A. MacPherson, M.A., Edinburgh, 1950, Professor—cultural geography, Western Europe, methodology

J. T. Pierce, Ph.D., London School of Economics, 1976, Assistant Professor—economic and rural geography, research methodology

G. A. Rheumer, Ph.D., Illinois, 1953, Associate Professor—historical, British Columbia

M. C. Roberts, Ph.D., Iowa, 1966, Professor—fluvial geomorphology, field methods

R. B. Sagar, M.Sc., McGill, 1959, Associate Professor—climatology, glaciology

P. L. Wagner, Ph.D., UC, Berkeley 1953, Professor—cultural geography

J. W. Wilson, M.Sc., MIT, 1947, M.R.P., North Carolina, 1951, Professor—urban and regional planning

S. T. Wong, Ph.D., Chicago, 1968, Associate Professor—resources management, quantitative methods

PART-TIME STAFF (half-time in other departments):

J.C. Day, Ph.D., Chicago, 1970, Professor and Director of MRM Program—resource and environmental management, water management

W. G. Gill, Ph.D., British Columbia, 1981, Associate Member and Director of Downtown Program—social and urban geography, symbolic landscapes and behavior, transportation

T.I. Gunton, Ph.D., British Columbia, 1981, Assistant Professor—urban and regional planning, resources management

T.K. Poiker, D. Phil., Heidelberg, 1966, Professor—economic, quantitative, computer cartography

A.C.B. Roberts, M.A., Waterloo, 1977, Instructor—remote sensing, cultural-historical

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Wetzel, Wayne Allen. "Weathering and Development of Weathering Residuals on the Boulder Batholith, Southwestern Montana," 1983.* Mf., National Library of Canada.

M.A.:

Collett, Christopher William. "The Congretation of Italians in Vancouver," 1983.* Mf., National Library of Canada.

Lee, Helen. "Corporate Strategy in the British Columbian Fish-Processing Sector," 1983.* Mf., National Library of Canada.

McDougall, Richard Douglas. "An Evaluation of the Interim Guidelines for Coastal Log-Handling Applications in British Columbia," 1983.* Mf., National Library of Canada.

Roberts, Timothy John. "The Isolation of Children: A Structuralist Approach," 1983.* Mf., National Library of Canada.

Rothacker, Ronald A. "Dispersed Recreation in Forest Resource Allocation: A Computer Model" 1983.* Mf., National Library of Canada.

M.Sc.:

Naughten, Thomas M. "Permafrost: An Examination of Interactive Influences on Distribution and Condition," 1983.* Mf., National Library of Canada.

University of Toronto

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1935

DEGREES OFFERED: M.A., M.Sc., Ph.D. Geography; M.Sc. Planning; M.A. Teaching

GRANTED 7/1/82-6/30/83: 11 Masters, 5 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 30 Masters 23 Ph.D.
NOT IN RESIDENCE: 10 Masters 1 Ph.D.

CHAIRMAN: John N.H. Britton

FOR CATALOG AND FURTHER INFORMATION WRITE TO: The Chairman,
Department of Geography, University of Toronto, Toronto, Ontario, Canada M5S
1A1
Telephone (416) 978-3377

PROGRAMS AND RESEARCH FACILITIES: The Geography M.A. and M.Sc. programs normally take a year, and comprise graduate courses and either a thesis or a research paper. A collaborative Master's program in environmental studies provides the additional opportunity to take core courses and undertake an internship outside the Geography Department. The Ph.D. is a research degree requiring mainly the preparation of a doctoral thesis. This program requires at least two years in residence after the M.A.

The department is prepared to supervise graduate research in climatology, geomorphology, pedology and land management, resource management and environmental hazards, cultural and social geography, historical geography, philosophy and history of geography, industrial geography, regional development, transportation analysis, quantitative analysis, and urban geography. The department conducts and provides for research on Canada, the United States and other areas where members of staff have active research interests, particularly Latin America, the U.S.S.R., Western and Central Europe, Africa, and East Asia.

A collaborative degree with the Faculty of Education enables teachers to obtain the M.A. (Teaching) degree on a part-time basis.

The department is also the home of the Master's degree in Planning, a two-year professional degree that is taught mainly by planners and geographers with planning interests. For information about any of the degree programs write the department.

The University library, with some three and a half million volumes, and special libraries near the campus comprise the largest collection of books and documents in Canada. Computing facilities available on campus include an IBM S/360/65, S/370-165, and DEC System 1060. Computer research facility provides specialized services, i.e., graphics, real-time computing, and data acquisition.

Departmental facilities include cartographic laboratories, laboratories and a field station for climatology and geomorphology, computer programming assistance, computer graphics laboratory, and research rooms for graduate students.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan*—Year system, with entrance in September. *Admission Requirements*—Minimum requirement is a bachelor's degree from a recognized university within the last five years with at least upper second class standing or its equivalent. Exceptions permitted in unusual circumstances. *Financial Aid*—Teaching and Research Assistantships carrying stipends of $4600 to $5200 are available and involve not more than ten hours work per week. Fellowships (University of Toronto, Social Sciences and Humanities Council of Canada, Central Mortgage and Housing Corporation, Natural Sciences and Engineering Research Council Canada, Transportation Development Agency, etc.) $6000 to $10,500 requiring no services. Summer employment in department often available.

GRADUATE FACULTY:

Howard F. Andrews, D.Phil., Sussex, 1970, Associate Professor—theoretical social geography

Alan M. Baker, Ph.D., Chicago, 1976, Associate Professor—urban cognition, simulation, computer cartography

Hans Blumenfeld, M.A., Darmstadt, 1921, Professor—transportation planning, metropolitan development

Larry S. Bourne, Ph.D., Chicago, 1966, Professor and Director, Centre for Urban and Community Studies—urban systems, urban spatial structure, housing

John N. H. Britton, Ph.D., London, 1966, Professor and Chairman—industrial development and technological policy

Rorke Bryan, Ph.D., Sheffield, 1967, Professor—experimental geomorphology, soil conservation, arid lands development

Michael Bunce, Ph.D., Sheffield, 1970, Associate Professor—agricultural change in urban regions, rural settlement, rural planning

Ian Burton, Ph.D., Chicago, 1962, Professor and Director of the Institute for Environmental Studies—environmental hazards

J. Barry Cullingworth, B.Sc., London, 1955, Professor—land policy, housing policy, social and physical planning

Leslie Curry, Ph.D., New Zealand, 1959, Professor—theoretical economic geography

Anthony M. Davis, Ph.D., Wisconsin, 1970, Associate Professor—biogeography, palynology/paleoecology

William G. Dean, Ph.D., McGill, 1959, Professor—arctic resources, Pleistocene geography, historical atlas of Canada

Neil C. Field, Ph.D., Washington, 1956, Professor—demographic analysis, U.S.S.R.

Jock H. Galloway, Ph.D., London, 1965, Professor—Latin America, historical geography of Brazil

Brian Greenwood, Ph.D., Bristol, 1970, Professor—coastal geomorphology, nearshore hydrodynamics and sedimentation

Angelo P. Grima, Ph.D., Toronto, 1970, Associate Professor—environmental management, public participation, energy policy

F. Kenneth Hare, Ph.D., Montreal, 1950, Professor—climatic and environmental change, extreme climates, climatic influences on economy

John R. Hitchcock, Ph.D., North Carolina, 1969, Associate Professor—neighborhood planning

Reiner Jaakson, Ph.D., Waterloo, 1972, Professor—recreation, survey methods, lake planning

Alan V. Jopling, Ph.D., Harvard, 1961, Professor—geomorphology, sedimentology, Quaternary studies

Donald Kerr, Ph.D., Toronto, 1950, Professor—historical geography of Canada, economic and urban change

James T. Lemon, Ph.D., Wisconsin, 1964, Professor—historical urban geography, colonial America, social geography

Stanley M. Makuch, LL.M., Harvard, 1972, Associate Professor—planning law

Joseph A. May, Ph.D., Toronto, 1968, Associate Professor—history and philosophy of geography, population geography

Thomas F. McIlwraith, Ph.D., Wisconsin, 1973, Associate Professor—Ontario landscape, nineteenth-century technology and transport

Aidan McQuillan, Ph.D., Wisconsin, 1975, Associate Professor—historical geography of rural North America

John Miron, Ph.D., Toronto, 1974, Associate Professor—household formation, migration, housing demand, location theory

D. Scott Munro, Ph.D., McMaster, 1975, Associate Professor—microclimatology, wetland and glacial basin, hydroclimatology

Edward C. Relph, Ph.D., Toronto, 1973, Associate Professor—landscapes

Shoukry T. Roweis, Ph.D., MIT, 1973, Associate Professor—urban planning and political processes

James W. Simmons, Ph.D., Chicago, 1964, Professor—Canada's urban system: growth and policy

Jacob Spelt, Ph.D., Utrecht, 1955, Professor—historical urban geography

J. J. van der Eyk, Ph.D., Wageningen, 1957, Professor—soil formation, land management, remote sensing

Alan Waterhouse, Ph.D., Berlin, 1968, Professor—urban design

Rodney R. White, Ph.D., Bristol, 1971, Associate Professor—Third World economic development, infrastructure planning

Joseph B. R. Whitney, Ph.D., Chicago, 1969, Professor and Graduate Coordinator—environmental impact assessment

Anne V. Whyte, Ph.D., Johns Hopkins, 1972, Associate Professor—environmental perception, environmental and social aspects of Third World development

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82–6/30/83:

Ph.D.:

Lakhan, Vishnudutt C. "Stochastic Simulation of Wave Action on Concave-Shaped Nearshore Profiles," 1982.

Liu, Kam-Biu. "Postglacial Vegetational History of Northern Ontario: A Palynological Study," 1982.

Oladipo, Emmanuel O. "On the Spatial and Temporal Characteristics of Drought in the Interior Plains of North America—A Statistical Analysis," 1983.

Sherman, Douglas Joel. "Longshore Currents: A Stress Balance Approach," 1983.

Weirich, Frank H. "Sedimentation Processes on a High Altitude Proglacial Lake in Southeastern British Columbia," 1982.

Master's:

Barbero, Jose Antonio. "Forecasting Barge Flows in the Plate Basin," 1982.

Coomes, Oliver T. "Reducing Transboundary Acidic Precipitation: An Examination of Regulatory, Judicial, and Administrative Systems in Canada and the United States," 1982.

Covert, Dwayne L. "Estimating the Value of Travel Time: A Review of the Conceptual Approaches and Statistical Techniques," 1982.

Dobilas, Geoffrey P. "Redlining in Mortgage Lending: Myth or Reality?" 1982.

MacPherson, Alan. "Geographical Aspects of Canadian Development Assistance," 1982.

Parry, Alan O. "The Impact of Technological Change in Maritime Transportation on Port System Development: A Case Study of the Port of Halifax," 1983.

Reichert, Dagmar. "Towards an Analysis of Dynamic Systems in Space: Spatial Time Series Models of Socioeconomic Systems," 1982.

Rush, Diana. "Energy Exchanges in a Passive Solar-Assisted House," 1983.

Seaman, Allen A. "The Late Quaternary History of the Burtt's Corner Area of New Brunswick," 1982.

Wright, Douglas S. "Preparing an Environmental Impact Statement: A Case Study of the Midwest Lake Uranium Project," 1983.

University of Victoria

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1949 GRADUATE PROGRAM FOUNDED: 1966

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 7 M.A., 0 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 16 M.A., 2 Ph.D.
NOT IN RESIDENCE: 19 M.A., 1 Ph.D.

CHAIRMAN: W. R. Derrick Sewell

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Mr. L. T. Ghobrial, Faculty of Graduate Studies, University of Victoria, Victoria, British Columbia, Canada V8W 2Y2
Telephone (604) 721-7975

PROGRAMS AND RESEARCH FACILITIES: The Geography Department concentrates its major efforts in four fields. North America and the Pacific Region are the main regional foci while urban economic, resource management, and geographical techniques are the three other systematic emphases. Research is being undertaken on Canadian topics, East and Southeast Asia, and Polynesia. The urban-economic group is involved in studies of environment and behaviour, regional development, transportation, and tourism. Within the resources group current research is concerned with water and coastal resources, hazards, recreation, impact assessment, climatology, and forest management policies.

The facilities of the departmental map library and university library have been developed to support this concentration of research effort. Computing facilities and advanced cartographic equipment are available for research purposes. The Department publishes the Western Geographical Series and has produced 20 book-length titles reflecting both the Department's research interests and those of invited contributors. A discussion paper series, the Cornett Papers, is also produced.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: A baccalaureate degree from a recognized university, or its equivalent, with a "B" average (70%) for the last two years is generally considered the minimum required for admission. Students whose native language is not English are required to provide evidence that their knowledge of English is sufficient to allow them to proceed with their studies. Overseas students should not make provision to travel to Canada until they have actually been admitted by the Faculty of Graduate Studies and have evidence of financial resources to allow them to pursue their studies here. The minimum residence requirement for a Master's degree is the equivalent of one full winter session of study (12 units), but most students should expect to spend two academic years in residence. For the degree of Doctor of Philosophy at least the equivalent of two full winter sessions of study beyond the Master's level or three full winter sessions of study beyond the Bachelor's level, and satisfactory completion of the prescribed program are required. Thesis topics are agreed upon after consultation with a supervisory committee and normally reflect the course work taken by the graduate concerned. The Winter Session is divided into two terms—the first, September to December; the second, January to May.

University of Victoria Fellowships of $7850, applicable to the session September to April, are awarded by the Faculty of Graduate Studies to students of high academic standing registered full-time in the Faculty. Upon recommendation of the Department, these Fellowships may be accompanied by a Summer Supplement of $1700, applicable to the period May to August, inclusive, for students working full-time on their studies during that period. A very limited number of Fellowships of $10,000 for a twelve-month period are awarded on a competitive basis to truly exceptional students in the University. Part-time Laboratory Instructorships, ranging from $1628 to $4884, applicable to the session September to April, are awarded by the Department. These instructors are assigned two to six contact hours per week, together with preparation and marking, during the period September to April. National Research Council Graduate Scholarships and Bursaries and Central Mortgage and Housing Corporation Fellowships may be awarded subject to conditions laid down by these agencies. Information regarding Canada Council and other Graduate Awards may be obtained from the Faculty of Graduate Studies.

STAFF:

Gerald M. Barber, Ph.D., Toronto, 1974, Associate Professor—urban, transportation, economic, quantitative

Philip Dearden, Ph.D., Victoria, 1978, Visiting Assistant Professor—resources management, physical, human

Michael C. R. Edgell, Ph.D., Birmingham, 1967, Associate Professor—physical, biogeography, landscape evaluation, Australia

Charles N. Forward, Ph.D., Clark, 1958, Professor—urban, port functions, urban historical, Canada

Harold D. Foster, Ph.D., London, 1968, Professor—physical, applied geomorphology, hydrology, natural hazards, renewable energy

Patricia P. Gilmartin, Ph.D., Kansas, 1980, Assistant Professor—cartography, remote sensing

David C. Y. Lai, Ph.D., London, 1967, Associate Professor—East Asia, Hong Kong Overseas Chinese, China, industrial, urban

Malcolm A. Micklewright, Ph.D., Washington, 1970, Associate Professor—economic, regional planning and development

Peter E. Murphy, Ph.D., Ohio State, 1970, Associate Professor and Graduate Advisor—urban, community planning, tourist management, quantitative

J. Douglas Porteous, Ph.D., Hull, 1969, Professor—urban, planning, behavioral, humanistic, Latin America

William M. Ross, Ph.D., Washington, 1972, Associate Professor—resources, political, legal, coastal management, fisheries

W. R. Derrick Sewell, Ph.D., Washington, 1964, Professor and Chairman—resources, behavioral, policy analysis, water, energy

Stanton E. Tuller, Ph.D., UCLA, 1971, Associate Professor—physical, climatology, heat balance, Japan

Rudolph Wikkramatileke, Ph.D., London, 1955, Professor—South and Southeast Asia, economic and cultural

Colin J. B. Wood, Ph.D., McMaster, 1970, Associate Professor—resources, conflict resolution, economic, quantitative

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Buchanan, Robert Gordon. "An Assessment of Natural Hazards Management in British Columbia," 1983.

Chamberlain, Paul Geoffrey. "The Bureaucracy and the Coastal Zone: Conflict Resolution in Offshore Hydrocarbon Development in British Columbia," 1983.

Dalby, Wilfrid Simon. "Political Ecology: A Study of the Irish Anti-Nuclear Movement," 1982.

Kemp, Karen Kathleen. "Municipal Energy Conservation Programs in British Columbia: A Study of Innovative Decisions," 1982.

Kuhn, Richard George. "An Examination of the Interrelationships between Energy Consumption and Leisure Activities: A Case Study of Victoria, British Columbia," 1983.

Moyse, Geoffrey Stuart. "Decision-Making in the Assessment of Land Use Suitability: The Case of Crown Foreshore Planning in Ladysmith Harbour, British Columbia," 1982.

University of Waterloo

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1962 GRADUATE PROGRAM FOUNDED: 1965

DEGREES OFFERED: M.A., Ph.D., and Resources Management Option in M.A.

GRANTED 7/1/82-6/30/83: 13 M.A., 2 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 32 M.A. 11 Ph.D.
NOT IN RESIDENCE: 8 M.A. 4 Ph.D.

CHAIRMAN: Leonard T. Guelke

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Ronald A. Bullock, Graduate Officer, Department of Geography, Faculty of Environmental Studies, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1
Telephone (519) 885-1211, ext. 3404

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography is an integral part of the Faculty of Environmental Studies comprising the Department of Geography, School of Urban and Regional Planning, Department of Man-Environment Studies, and the School of Architecture. Although the graduate programs in Geography and in the School of Urban and Regional Planning are separate and independent, they strongly complement one another. Faculty in Geography and in Planning are readily accessible to all students and there is a constant dialogue between the Geography and Planning graduate students.

The Department offers training and research guidance at the Master's and Doctorate levels. The fields of research specialization are (1) resource analysis (social, economic, and ecological aspects), (2) economic (industrial, rural, regional development), (3) urban, (4) recreation, (5) physical, (6) techniques (air photo interpretation, remote sensing, computer mapping, model-building, statistical analysis). For Honors B.A. (or equivalent) graduates in Geography, there are two routes for the M.A.—(1) the Thesis M.A., and (2) the Course Work M.A. Requirements for the Course Work M.A. are four graduate courses and the completion of a research paper. Within the course work M.A. there is a Resource Management Option which is open to students with either geography or non-geography honours degrees (or equivalents).Requirements for the Thesis M.A. are three graduate courses and a thesis. For the Ph.D. (after the M.A. degree) course requirements vary with the background and needs of the candidate. A dissertation is mandatory, and competence in a language other than English is expected.

Excellent cartographic, photo interpretation, remote sensing, and computer facilities are available.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan*—3 Terms (September-December; January-April; May-August) *Admission Requirements*—M.A.: B standing (75%) in Honours B.A. or equivalent. Ph.D.: Must possess M.A. (or equivalent) and first class standing. *Financial Aid*—Department Assistantships with a maximum value of $5638 for two terms, plus University of Waterloo scholarship.

STAFF:

James H. Bater, Ph.D., London, 1969, Professor—Soviet Union, industrial

Christopher R. Bryant, Ph.D., London, 1970, Associate Professor—rural, quantitative methods

Ronald A. Bullock, Ph.D., London, 1969, Associate Professor, Associate Chairman, Graduate Studies—cultural, historical, Africa

Trudi Bunting, Ph.D., Toronto, 1975, Assistant Professor—urban

Aubrey Diem, Ph.D., Michigan, 1961, Professor—regional, Europe

Douglas Dudycha, Ph.D. candidate, London, Assistant Professor—quantitative methods, computer cartography

Christian Dufournaud, Ph.D., Toronto, 1980, Assistant Professor—resources management, multivariate methods

David K. Erb, Ph.D., McGill, 1963, Professor—tropical geomorphology, air photo interpretation, resource inventory

James S. Gardner, Ph.D., McGill, 1968, Professor—Alpine and arctic geomorphology, environmental hazards and impact studies, geographic education

Leonard T. Guelke, Ph.D., Toronto, 1974, Professor and Chairman—geographic thought, cartography, historical, Africa

B. Hyma, Ph.D., Pittsburgh, 1971, Associate Professor—population, developing countries

Robert M. Irving, Ph.D., Minnesota, 1966, Professor—rural, Canada

R. Johnson, Ph.D., Minnesota, 1972, Assistant Professor—recreation

Andrzej Kesik, Ph.D., Marie-Curie Sklodowska, 1959, Associate Professor—air photo interpretation, geomorphology, geomorphological surveying

Ralph R. Krueger, Ph.D., Indiana, 1959, Professor, Associate Chairman, Undergraduate Studies—land use, regional planning and development, Canada

Ellsworth LeDrew, Ph.D., Colorado, 1976, Associate Professor—climatology, remote sensing

B. Matthews, Ph.D., Cornell, Professor—soils geography

Geoffrey R. McBoyle, Ph.D., Aberdeen, 1969, Professor—climatology, geographic thought and methodology

Alexander G. McLellan, Ph.D., Glasgow, 1967, Associate Professor—glacial geomorphology and field studies

Bruce Mitchell, Ph.D., Liverpool, 1969, Professor—natural resources, quantitative methods

George Mulamoottil, Ph.D., Delhi, Professor, Associate Dean, Graduate Affairs—resource management, environmental planning

Peter H. Nash, Ph.D., Harvard, 1958, Professor—alternative future environments, nature of geography, evolution of geographic thought

J. G. Nelson, Ph.D., Johns Hopkins, 1959, Professor and Dean, Faculty of Environmental Studies—resources, landscape history

E. Roy Officer, M.A., Wisconsin, 1958, Assistant Professor—historical, political, geographic thought

Richard E. Preston, Ph.D., Clark, 1964, Professor—urban, regional development

George B. Priddle, Ph.D., Clark, 1972, Associate Professor—resources management, parkland planning, environmental perception

John B. Robinson, Ph.D., Toronto, 1981, Assistant Professor—energy policy analysis, environmental philosophy

Lorne H. Russwurm, Ph.D., Illinois, 1964, Professor—urban systems, rural-urban fringe

S. L. Smith, Ph.D., Texas A&M, 1973, Associate Professor—geography of recreation, tourism

David F. Walker, Ph.D., Toronto, 1971, Professor—industrial, location theory, regional development

Geoffrey Wall, Ph.D., Hull, 1971, Professor—recreation, tourism, resources

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Lai, Poh Chin. "A New Solution to Travel Time Map Transformations," 1983.* Mf., University Microfilms.

Needham, Roger. "Newspaper Response to the Coastal Zone Hazards of Lake Erie: A Canadian-American Comparison," 1982.* Mf., University Microfilms.

Master's:

Brown, Clare. "An Evaluation of the Salmon River Leasing System of New Brunswick, 1863-1927," 1982.

Coppack, Philip. "Implications of Population Decentralization for the Central Place Structure of the Urban Field," 1983.

Eastwood, Donald. "The University as a Technological Growth Pole: A Study of Interrelationships between the University of Waterloo and High Technology Firms in the Waterloo Region," 1982.

Fraser, Spruce. "Methane: An Issue in Solid-Waste Management," 1983.

Guyer, Clare. "Big Game Management in New Brunswick, 1889-1971," 1982.

Jordan, Howard. "Mapping Private Lane Access for Public Outdoor Recreation," 1983.

Kaseke, Evans. "Understanding Kariba Dam Cooperation between Zambia and Zimbabwe (Rhodesia) in the Post-Unilateral Declaration of Independence Period," 1982.

Kinsman, Brian. "Planning for Agriculture in Nova Scotia," 1983.

Mberengwa, Ignatius. "Land-Use Change and Stability in Unplanned Secondary Centres: The Case of Downtown Waterloo, Ontario," 1982.

Sandall, Scott. "Surface Currents, Shear Stress, and Thermal Patterns over Lower Bass Lake," 1983.

Whitney, Scott. "The Growth and Behavior of Industry in Small Communities of Mid-Western Ontario: A Case Study of Elmira and Goderich," 1982.

Williams, George. "Production Change in Sierra Leone's Mining Sector and the Implication for a Developing Economy," 1982.

University of Western Ontario

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1938 GRADUATE PROGRAM FOUNDED: 1946

DEGREES OFFERED: M.A., M.A.T. (Geography), M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 12 Masters, 3 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 21 Masters 11 Ph.D.
NOT IN RESIDENCE: 17 Masters 14 Ph.D.

CHAIRMAN: M. F. Goodchild

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Coordinator of Graduate Affairs, Department of Geography, University of Western Ontario, London, Ontario, Canada N6A 5C2
Telephone (519) 679-6853

PROGRAMS AND RESEARCH FACILITIES: The Department is prepared to supervise research within the principal interests of its faculty, but particularly in the research foci of urban and regional studies, social geography, recreation and rural studies, pedology, alpine geomorphology, physical geography, and quantitative theory and spatial systems. The University offers opportunities for course work and research in Western Hemisphere studies and the Department has close ties with the Departments of Anthropology, Botany, Economics, Geology, History, Political Science and Psychology and the Faculties of Business Administration, Engineering, Science and Education.

The Master's thesis (or research paper in the case of the M.A.T.) and the Ph.D. dissertation represent the end products toward which the individual's program is directed. Most students and many faculty members participate in the forum on Geographical Methodology. Additional course work, determined on an individual basis, and a field camp make up the course requirements for either the Master's or the Ph.D. degree.

Facilities in the Social Science Centre include well-equipped laboratories in geomorphology and pedology, a cartographic division with two full-time cartographers and a map library of over 180,000 sheet-maps and 1400 atlases, with three full-time curators. Computing facilities include remote access to the University's two Cyber 170 systems for interactive and batch use through the Social Science Computing Laboratory's PDP 11/70. The Department maintains its own computer cartographic facilities, including graphics display systems and digitizers linked to the University's two Dec-10 systems. Study space is provided for each graduate student. Students and faculty publish the semiannual geographical journal *Ontario Geography*. Each year several noted geographers from other universities and agencies are invited to give visiting lectures and seminars in the Department.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: Semester system. Master's applicants must have either an Honors Bachelor's degree or equivalent in Geography with at least a B average from a recognized university, or have a degree in another program with at least a B average and have completed course work to the satisfaction of the Department. Ph.D. applicants who hold a Master's degree or equivalent are accepted at the discretion of the Department. Financial aid is available to qualified students through University Scholarships, teaching assistantships, and scholarships from outside agencies. Write to the Coordinator of Graduate Affairs for details of current policy.

FACULTY:

E. M. Bjorklund, Ph.D., Chicago, 1955, Associate Professor—cultural
R. W. Butler, Ph.D., Glasgow, 1973, Associate Professor—recreational
D. G. Cartwright, Ph.D., Western Ontario, 1973, Associate Professor—Canadian studies
R. G. Cecil, Ph.D., McGill, 1973, Assistant Professor—economic (Caribbean)
W. R. Code, Ph.D., UC, Berkeley, 1971, Associate Professor—urban
M. F. Goodchild, Ph.D., McMaster, 1969, Professor—quantitative methods
D. S. Graham, Ph.D., Johns Hopkins, 1981, Assistant Professor—hydrology, water resources
M. B. Green, Ph.D., Ohio State, 1980, Assistant Professor—economic, transportation
H. A. Hosse, Ph.D., Ottawa, 1962, Professor—urban and regional planning
D. G. Janelle, Ph.D., Michigan State, 1966, Professor—spatial forecasting, urban conflict, transportation
R. H. King, Ph.D., Saskatchewan, 1969, Associate Professor—geomorphology, soils
B. H. Luckman, Ph.D., McMaster, 1973, Associate Professor—geomorphology
R. McDaniel, M.A., Western Ontario, 1964, Associate Professor—geography of the future, economic
N. L. Nicholson, Ph.D., Ottawa, 1951, Ed.D., Toronto, 1975, Senior Professor and Chairman—Canada, cartology
R. W. Packer, M.A., Cantab., 1948, Professor—geomorphology
A. K. Philbrick, Ph.D., Chicago, 1949, Professor Emeritus—cultural
E. G. Pleva, Ph.D., Minnesota, 1937, Professor Emeritus—resources planning, Great Lakes area
H. W. Taylor, Ph.D., Maryland, 1962, Associate Professor—population (Latin America)
M. J. Troughton, Ph.D., Western Ontario, 1970, Professor—agricultural
W. Warntz, Ph.D., Pennsylvania, 1955, FRSC Professor—theoretical geography, macrogeographic systems, history and philosophy of science
C. F. J. Whebell, Ph.D., London, 1961, Associate Professor—political
W. R. Wightman, Ph.D., 1964, Associate Professor—historical

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Averack, Richard. "The Boundary Definition Problem: Statistical and Geometric Approaches," 1983.

Banting, Douglas R. "Characterization of Arctic Soils: Interrelationships with Site and Vegetation," 1982.

Rahman, K. H. Shaf. "A Three-Phase Temperature-Density Model to Simulate and Compare Potential Snowmelt Runoff," 1982.

Master's:

Battson, Richard A. "The Methodology Involved in the Determination of Long-Term Fire Histories: An Analysis of Charcoal and Pollen, Mashagama Lake, Ontario," 1983 (M.Sc.).

Bowman, D. Cindy. "Behavioural Effects of Flexible Working Hours: A Time Geography Approach," 1982.

Caldwell, Wayne. "Low Agricultural Soil Capability and Farming Practice: A Critical Evaluation of Class 6 Soils Located in Huron and Bruce Counties, Ontario," 1982.

Chan, Kelly Kar-lim. "Digital Stereo Photomapping and Surface Modelling," 1982.

Fox, Michael J. "An Assessment of Residential Urban Renewal in Detroit's Inner-City Renaissance: The Elmwood III Project," 1983.

Holman, Gary A. "The Effect of Last Place of Residence on Recreation and Leisure in a Resource-Based Community: A Case Study of Fort McMurray, Alberta, Canada," 1982.

Keller, C. Peter. "The Development of Peripheral Tourist Destinations: Case Study Baffin Region," 1982.

King, William. "A Residential Developer's Effect on the Growth of London, Ontario, A Case Study of Sifton Properties Ltd.," 1982.

Kingston, Maxine S. "An Evaluation of the Recommended Methods for Paleosol Investigations: A Case Study of a Holocene Paleosol, Calgary, Alberta," 1982 (M.Sc.).

Schaus, Barbara L. "Climatic Influences on Soybean Yields in Ontario: An Examination of Spatial Relationships," 1982.

Wilson, Gregory J. "Residential Satisfaction in Rental Apartments: An Examination of Mobility, Expectations, and Aspirations in Central City High Rise and Converted Houses," 1983.

Wright, Christopher J. "Private Urban Residential Recreation: A Case Study of Home Swimming Pools in London, Ontario," 1982.

Wilfrid Laurier University

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1960 GRADUATE PROGRAM FOUNDED: 1967

DEGREES OFFERED: M.A.

GRANTED 7/1/82–6/30/83: 8

GRADUATE STUDENTS IN RESIDENCE: 12
NOT IN RESIDENCE: 14

CHAIRMAN: Barry N. Boots

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Dr. Alfred Hecht, Graduate Officer, Department of Geography, Wilfrid Laurier University,

Waterloo, Ontario, Canada N2L 3C5
Telephone (519) 884-1970, ext. 288

PROGRAMS AND RESEARCH FACILITIES: The Department of Geography offers courses and research guidance at the Master's level in the fields of: (1) applied physical geography, (2) cultural and historical geography, (3) economic and urban geography, and (4) resources management.

There are two options from which a graduate student may choose. The thesis option normally involves completion of a minimum of four term courses and a thesis. Participation in graduate colloquia and field trips is normally required.

The non-thesis option allows completion of the M.A. program through course work. Nine term or equivalent graduate courses are required. As well the student is restricted to a maximum of four term courses in any one of the general areas of geography offered by this department. Cartographic and computer facilities are available.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: *Academic Plan*—Academic Year, September to April. *Admission Requirements*—A minimum of second class honours or B standing in the graduating year of an Honours Program in Geography or its equivalent. *Financial Aid*—Department Teaching Fellowships with a value of $3500 from September to April. Additional Teaching Fellowships valued at $1750 are available in the summer months. University scholarships valued at $2000 are also available. In addition, Research Assistantships are available from faculty research grants.

STAFF:

Barry N. Boots, Ph.D., Rutgers, 1972, Professor—spatial patterns, urban, quantitative

Jerry A. Hall, Ph.D., Clark, 1973, Associate Professor—physical resources, climatology

C. Grant Head, Ph.D., Wisconsin, 1971, Associate Professor—cartography, historical

Alfred Hecht, Ph.D., Clark, 1972, Professor—economic, urban

Kenneth Hewitt, Ph.D., London, 1967, Professor—natural hazards, mountain environments, ecological theory

Ian A. McKay, M.A., Western Ontario, 1966, Assistant Professor—cultural, historical

John H. McMurry, Ph.D., Michigan, 1950, Professor—resources, land and wildlife management

Russell W. Muncaster, Ph.D., Clark, 1972, Associate Professor—urban, economic, quantitative

Helen E. Parson, Ph.D., Kentucky, 1976, Assistant Professor—rural, land use and settlement history of Eastern Canada

John Radke, Ph.D., British Columbia, 1983, Assistant Professor—network analysis, pattern recognition, transportation, quantitative

Houston C. Saunderson, Ph.D., Toronto, 1974, Associate Professor—glacial and fluvial geomorphology, sediment transport

Graham Smith, Ph.D., Waterloo, 1982, Assistant Professor—resources management, public participation, institutions, public policy and decision-making

Gunars Subins, Ph.D., Western Ontario, 1974, Associate Professor—physical, geomorphology, soil, water

Herbert A. Whitney, Ph.D., Michigan, 1962, Associate Professor—geographic thought, cultural, East Asia

Bruce S. Young, Ph.D., Natal, 1972, Professor—economic, tourism, developing world

TITLES OF THESES COMPLETED 7/1/82-6/30/83:

Master's:

Lockett, Francis. "Flume Experiments on Bedforms and Structures at the Dune and Plain Transition," 1982.

Miller, Kathy. "Vegetation Pattern and Disturbance Effects in the Subalpine-Alpine Interface, Valley of the Ten Peaks, Alberta," 1983.

Morgan, Pamela. "Topologic Structure of Cellular Networks: A Spatial Autocorrelation Approach," 1982.

Sharpe, Robert. "Regional Variations among Ethnic Groups in Ontario: A Core-Periphery Model," 1983.

Walder, Ron. "The Utilization of Wood as an Energy Resource in Ontario," 1983.

Wong, Amy. "An Examination of the Geographic and Socioeconomic Spaces in Ethnic Groups in Toronto: A Core-Periphery Perspective," 1983.

University of Windsor

DEPARTMENT OF GEOGRAPHY

DATE FOUNDED: 1965 GRADUATE PROGRAM FOUNDED: 1967

DEGREES OFFERED: M.A.

GRANTED 7/1/82-6/30/83: 7

GRADUATE STUDENTS IN RESIDENCE: 16
NOT IN RESIDENCE: 4

CHAIRMAN: Ihor Stebelsky

FOR CATALOG AND FURTHER INFORMATION WRITE TO: Graduate Secretary, Department of Geography, University of Windsor, Windsor, Ontario, Canada N9B 3P4
Telephone (519) 253-4232, ext. 446

PROGRAMS AND RESEARCH FACILITIES: Instruction and research guidance are offered by the Department in the fields of Climatology; Geomorphology; Historical Geography; Regional Studies, particularly of Latin America, Arctic Canada, the Soviet Union, Western Europe, and South Asia; Resource Management and Conservation; Industrial Geography; Urban Geography and Planning; Population; and Medical Geography. Interdisciplinary programs are available with other Departments in the University, and with other universities, in both physical and regional geography.

The University of Windsor is located on the Detroit River close to the downtown areas of both Windsor and Detroit, and to Wayne State University and the University of Michigan. The University has two IBM 3031 computers, and a library of 1,000,000 volumes. The Department of Geography is located in Windsor Hall, with map library, cartography and physical geography laboratories, and graduate study space. The Department operates a well-equipped climatological station on campus, and offers an Arctic program at Frobisher Bay, N.W.T.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: The University of Windsor offers graduate courses in the September-December and January-April semesters, though courses can be taken in Inter-Session and Summer School.

Normally a B+ average in a four-year Honors Program in geography or its equivalent (90 credits in Geography out of 132 undergraduate credits) from a recognized University admits to a one-year program. Candidates from other disciplines are admitted to a two-year program. Five semester-length courses, a language or computer skills requirements, and a thesis complete the M.A. degree.

Financial aid is available to excellent students through University teaching assistantships, and fellowships to a maximum of $7200, as well as from Province of Ontario graduate fellowships, Canada Council, National Research Council, and Central Mortgage and Housing Corporation.

STAFF:

Anthony Blackbourn, Ph.D., Toronto, 1968, Professor—industrial, Europe

Morris Blenman, Ph.D., McGill, 1975, Assistant Professor—transportation, social geography, Caribbean

Douglas Caruso, M.A., Minnesota, 1979, Adjunct Assistant Professor—planning

Conrad P. Gravenor, Ph.D., Indiana, 1952, F.R.S.C., Professor and Dean of Science & Mathematics—glacial geology

Frank C. Innes, Ph.D., McGill, 1967, Professor—historical, Caribbean, North America, social indicators, medical

John Jacobs, Ph.D., Colorado, 1973, Associate Professor—climatology, Arctic, Canada, environmental change and aboriginal cultures

Amrit Lall, Ph.D., Indiana, 1958, Associate Professor—population, South Asia

Placido LaValle, Ph.D., Iowa, 1965, Associate Professor—geomorphology, quantitative methods, field techniques

Gerald Romsa, Ph.D., Florida, 1968, Professor—urban planning, Anglo-America, recreation, aging

Marie Sanderson, Ph.D., Michigan, 1965, Professor and Director of the Great Lakes Institute—climatology, water balance, Great Lakes

Ihor Stebelsky, Ph.D., Washington, 1967, Professor and Chairman—historical, agricultural, resources, Soviet Union
Alan Trenhaile, Ph.D., Wales, 1969, Professor—coastal and glacial geomorphology
Paul Vandall, M.A., Western Ontario, 1961, Associate Professor—conservation and resource management, regional planning, Great Lakes
Ronald Welch, M.A., Western Ontario, 1969, Coordinator of Cartographic Services—cartography

TITLES OF THESES COMPLETED 7/1/82-6/30/83:
Master's:

Bhattacharya, Kasturi. "Demographic, Socio-Economic Characteristics and Migration Behaviour of Indian Immigrants in Windsor, Ontario, Canada: A Study of Immigrants Arriving Before and After 1975," 1983.

Devasagayam, Charles. "The Functional Hierarchy of Planned Shopping Centers in Windsor," 1983.

Ho, Ching-Yu. "A Study of the Relationship between the Spatial Church-Going Behaviour of Protestant Church-Goers and the Location Pattern of Protestant Churches: A Case Study in South Windsor Area," 1983.

Janisse, Patricia. "Analysis of Factors Affecting Mode Choice for the Journey-to-Work Trip: Case Study—Windsor, Ontario," 1983.

Maceyovski, Dennis. "The Accessibility and Utilization of Select Medical Services: A Study of the Non-Institutionalized 20-to-64-Year Age Group in Windsor, Ontario," 1983.

Mercan, Dennis. "An Investigation of the Intertidal Saturation Level as It Relates to Shore Platform Developments," 1983.

Paraschak, Donna. "An Investigation of Bioerosion and Inorganic Erosion in Shore Platform Rockpools at Ipperwash Provincial Park, Ontario, Canada," 1983.

York University

GRADUATE PROGRAMME IN GEOGRAPHY

DATE FOUNDED: 1962 GRADUATE PROGRAMME FOUNDED: 1967

DEGREES OFFERED: M.A., M.Sc., Ph.D.

GRANTED 7/1/82-6/30/83: 2 Master's, 1 Ph.D.

GRADUATE STUDENTS IN RESIDENCE: 27 M.A. 3 Ph.D.
NOT IN RESIDENCE: 5 M.A. 3 Ph.D.

DIRECTOR: J. David Wood

FOR CATALOG AND FURTHER INFORMATION WRITE TO: J. David Wood, Director, Graduate Programme in Geography, York University, Downsview, Ontario, Canada M3J 1P3
Telephone (416) 667-3740

PROGRAMMES AND RESEARCH FACILITIES: Doctoral research is offered in five fields of specialization: biogeography; cultural-historical geography; resource analysis; and urban and economic geography. The Ph.D. degree is seen as a research degree, and students are not expected to take many courses. A master's degree can be pursued in almost any branch of the discipline, including the option of an M.Sc. in biogeography.

The M.A./M.Sc. candidate chooses one of two programmes: (a) two full course equivalents and a thesis, (b) three full course equivalents and a research paper. It is expected that full-time M.A./M.Sc. students will complete all requirements within two academic years. The Programme has a large faculty representing a great number of different academic institutions, resulting in a wide variety of interests and points of view. Facilities include a departmental library, two electronic map digitizers, physical geography laboratories equipped for a wide range of analytical work including soil, water, pollen, and vegetation analysis, and student office space. Holdings of the university library are extensive both in Geography and in cognate fields. In addition there are significant libraries and archives elsewhere in Metropolitan Toronto. The university has a range of advanced computer facilities and the department employs its own full-time programmer. A discussion paper and a monograph series (in which doctoral theses appear) are published.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: There are three terms in the calendar year, but the normal academic session extends from mid-September until April. The summer term usually is used for writing the thesis or research paper, or conducting field work. Admission to M.A./M.Sc. study normally is from a recognized Honours degree, or equivalent qualification, with at least B (second class) standing. Doctoral applicants are expected to have completed their M.A./M.Sc. by the time they enter. The master's degree can be undertaken part-time.

The programme offers teaching assistantships to all full-time graduate students. Some graduate (research) assistantships are also available, and first class students usually are offered a York scholarship (currently $3000). Applicants are expected to seek other awards, from agencies such as the Ontario Government, Social Sciences and Humanities Research Council of Canada, Central Mortgage and Housing Corporation, Natural Sciences and Engineering Research Council Canada. Financial assistance also is generated by research grants to individual faculty members. Arrangements change yearly; full disclosure of assistance is made when an applicant is accepted (usually March).

GRADUATE FACULTY:

Frank A. Barrett, Ph.D., Michigan State, 1973, Associate Professor—medical, migration, cultural

Ronald Bordessa, Ph.D., Liverpool, 1971, Associate Professor—urban social geography, rural-urban fringe policymaking

Ian A. Brookes, Ph.D., McGill, 1970, Associate Professor—geomorphology, Quaternary environments

James A. Cameron, Ph.D., Glasgow, 1970, Associate Professor—historical, Canadian pioneer settlements, migration

J. Tait Davis, Ph.D., Clark, 1960, Professor—economic, regional economic development and planning, Kenya

William C. Found, Ph.D., Florida, 1966, Professor—economic, rural resource use, land use forecasting

Donald B. Freeman, Ph.D., Chicago, 1971, Associate Professor—economic, transportation and trade, Kenya

James R. Gibson, Ph.D., Wisconsin, 1967, Professor—historical, geography of Russia past and present

Bryn Greer-Wootten, Ph.D., McGill, 1968, Associate Professor—urban, internal structure of cities, demographic analysis, risk assessment

Conrad E. Heidenreich, Ph.D., McMaster, 1970, Professor—cultural, historical geography of Native groups in the Great Lakes area

Alan R. Hill, Ph.D., Belfast, 1968, Associate Professor—ecology, resource management

H. Peter M. Homenuck, Ph.D., Cincinnati, 1969, Associate Professor, MCIP—urban, community and regional planning

Martin C. Kellman, Ph.D., Australian National, 1967, Professor—plant geography, tropical environments

William C. Mahaney, Ph.D., Colorado, 1970, Associate Professor—geomorphology, pedology, Pleistocene environments

John U. Marshall, Ph.D., Toronto, 1968, Associate Professor—urban, regional systems of cities, research methodology

Bryan H. Massam, Ph.D., McMaster, 1969, Professor—urban, location problems in the public sector, planning

H. Roy Merrens, Ph.D., Wisconsin, 1962, Professor—historical, colonial North America

C. David Morley, Ph.D., Australian National, 1966, Associate Professor—urban, behavioral studies, recreation, geography and policy-making

Robert A. Murdie, Ph.D., Chicago, 1968, Associate Professor—urban, internal social structure of cities

Glen B. Norcliffe, Ph.D., Bristol, 1970, Associate Professor—economic, regional development, industrial, quantitative methods

John P. Radford, Ph.D., Clark, 1974, Associate Professor—urban historical geography, internal structure of cities

Edward S. Spence, Ph.D., Alberta, 1971, Associate Professor—hydrology and water resources, resource management

Gerald E. Walker, Ph.D., UC, Berkeley, 1970, Associate Professor—cultural, rural settlement and social structure, diffusion

John Warkentin, Ph.D., Toronto, 1960, Professor—historical, settlement of Canada, history of geography in Canada

Paul F. Wilkinson, Ph.D., Toronto, 1974, Associate Professor—recreation, environmental management, environment and behavior

J. David Wood, Ph.D., Edinburgh, 1962, Professor—pioneer settlement, migration, conservation history

TITLES OF THESES AND DISSERTATIONS COMPLETED 7/1/82-6/30/83:

Ph.D.:

Roberts, Arthur C.B. "Ontario Basin Preceramic Survey," 1982.* Mf., National Library of Canada, Ottawa.

Master's:

Gray, Paul D. "A Study of Commuters' Awareness, Perceptions, and Opinions about the VIA Rail Service and Other Commuting Modes Available to People Living Northeast of Toronto," 1983.

Julig, Patrick John. "Human Use of the Albany River from Preceramic Times to the Late Eighteenth Century," 1982.

Staff Directory

Aangeenbrug, Robert T.	Kansas
Abington, O. Douglas	SW Louisiana
Abler, Ronald F.	Pennsylvania State
Abrahams, Athol D.	SUNY-Buffalo
Acker, William J.	Arizona State
Adams, John S.	Minnesota
Adams, Russell B.	Minnesota
Adams, William G.	E. Kentucky
Agnew, John A.	Syracuse
Aguado, Edward	San Diego State
Ahmed, G. Munir	Chicago State
Ahsan, S. Reza	W. Kentucky
Aiken, Charles S.	Tennessee
Airola, Teuvo M.	Rutgers
Aldrich, Frank T.	Arizona State
Alexander, Charles S.	Illinois
Alexander, David	Massachusetts
Alexander, Robert H.	Colorado
Alford, John J.	W. Illinois
Allan, Nigel J. R.	Louisiana State
Allderdice, William H.	Memorial
Allen, James P.	CSU, Northridge
Allen, W. Bruce	Pennsylvania
Alsop, Ted J.	Indiana State
Altschul, D. Robert	Arizona
Amedeo, Douglas M.	Nebraska-Lincoln
Anderson, Duncan M.	Carleton
Anderson, E. G.	N.E. Louisiana
Anderson, James R., Jr.	Florida State
Anderson, Lawrence C.	Mankato State
Anderson, Paul S.	Illinois State
Anderson, Thomas D.	Bowling Green State
Anderson, William	Boston
Andrews, Alice C.	George Mason
Andrews, Howard F.	Toronto
Andrews, Sona K.	Minnesota
Antonini, Gustavo A.	Florida
Apitz, Darrell F.	Mankato State
Archibold, O. William	Saskatchewan
Arey, David G.	SIU-Carbondale
Armstrong, HelenJane	Florida
Armstrong, R. Warwick	Hawaii
Armstrong, Warwick	McGill
Arnfield, A. John	Ohio State
Arreola, Daniel D.	Texas A&M
Arvidson, Richard	CSU, Los Angeles
Aschmann, Homer	Riverside
Ash, Donald W.	Indiana State
Ashbaugh, James G.	Portland State
Ashmore, Peter E.	Memorial
Aspbury, George	Illinois State
Atkins, Ernie	Louisiana State
Augelli, John P.	Kansas
Augustin, Byron D.	SW Texas
Austin, C. Murray	Northern Iowa
Austin, Robert F.	Missouri-Columbia
Averack, Richard	SW Texas
Babcock, Lyndon R.	Illinois-Chicago
Bacon, Robert S.	Miami U.
Bagchi, Deipica	SIU-Edwardsville
Bahre, Conrad J.	Davis
Bailey, W.G.	Simon Fraser
Bain Nancy R.	Ohio
Baker, Alan M.	Toronto
Baker, Earl J.	Florida State
Baker, Marvin W., Jr.	Oklahoma
Baker, Simon	E. Carolina
Baker, Stephen R.	Columbia
Baker, William B.	SIU-Edwardsville
Ball, John M.	Georgia State
Ballas, Donald J.	Indiana U. of Pa.
Balling, Robert C.	Nebraska-Lincoln
Band, Lawrence E.	San Francisco State
Banfield, Colin E.	Memorial
Banister, Judith	George Washington
Bannister, Geoffrey	Boston
Barb, Charles E., Jr.	Oklahoma
Barber, Gerald M.	Victoria
Barber, Melvin C.	Memphis State
Bardach, John E.	Hawaii
Bariss, Nicholas	Nebraska-Omaha
Barker, M. L.	Simon Fraser
Barnes, James A.	Georgia
Barnes, T. J.	British Columbia
Barnhardt, Michael L.	Memphis State
Barnum, H. Gardiner	Vermont
Barr, Brenton M.	Calgary
Barr, William	Saskatchewan
Barrett, Elinore M.	New Mexico
Barrett, Frank A.	York
Barrett, Ward J.	Minnesota
Barry, Roger G.	Colorado
Bartlein, Patrick J.	Oregon

Barton, Byron K.   Indiana State
Barton, Thomas F.   Indiana
Basile, David G.   UNC Chapel Hill
Basile, Robert M.   Toledo
Bass, George F.   Texas A&M
Bastian, Robert W.   Indiana State
Batchelder, Robert   Boston
Bater, James H.   Waterloo
Baudry, Jacques   Ottawa
Baum, Howell R.   Maryland
Baum, Werner A.   Wisconsin-Milwaukee
Baumann, Duane D.   SIU-Carbondale
Bayer, Karel   Wisconsin-Milwaukee
Bean, John L.   North Texas State
Beaton, Joseph P.   Denver
Beatty, George F.   Ball State
Beatty, Susan W.   UCLA
Beazley, Ronald I.   SIU-Carbondale
Bechtol, Bruce E. CSU, Chico
Bederman, Sanford H.   Georgia State
Bednarz, Robert S.   Texas A&M
Behling, Robert E.   W. Virginia
Beiswenger, Ronald   Wyoming
Bell, Thomas L.   Tennessee
Bello, Richard L.   Saskatchewan
Bencloski, Joseph W.   Georgia
Bender, John F.   UNC Charlotte
Benhart, John E.   Shippensburg
Bennett, Charles F.   UCLA
Bennett, David   Carleton
Bennett, Don C.   Indiana
Bennett, Iven V.   New Mexico
Bennett, James   Pennsylvania
Berdoulay, Vincent   Ottawa
Berentsen, William H.   Georgia
Berg, Richard H.   W. Washington
Bergen, John V.   W. Illinois
Berger, Rainer   UCLA
Berger, Roland   CSU, Chico
Bergmann, John F.   Alberta
Bernard, Frank E.   Ohio
Berry, Leonard   Clark
Best, Alan C. G.   Boston
Bettis, Norman C.   Illinois State
Beyer, Jacquelyn L.   Colorado
Beyers, William B.   Washington
Bhardwaj, Surinder M.   Kent State
Bhatt, Bharat   Texas
Biechler, Michael   CSU, Fresno
Bier, James A.   Illinois
Bingham, James M.   W. Kentucky
Bird, J. Brian   McGill

Birdsall, Stephen S.   UNC Chapel Hill
Bjorklund, E. M.   W. Ontario
Black, William R.   Indiana
Blackbourn, Anthony   Windsor
Bladen, W. A.   Kentucky
Blair, Peter D.   Pennsylvania
Blanchard, W. A.   Oklahoma State
Bland, Warren R.   CSU, Northridge
Blasing, T.J.   Tennessee
Blaut, James B.   Illinois-Chicago
Blauvelt, John F.   W. Illinois
Bleiker, Hans   Wyoming
Blenman, Morris   Windsor
Blick, James D.   San Diego State
Bloemer, Hubertus H. L.   Ohio
Blong, Russell J.   Hawaii
Bloomfield, Gerald T.   Guelph
Blouet, Brian W.   Texas A&M
Blount, Stanley F.   SUNY-Albany
Blum, Fredrick   Chicago State
Blumenfeld, Hans   Toronto
Bobyarchik, Andy R.   UNC Charlotte
Bockemuehl, Harold W.   Montana
Bodman, Andrew R.   Vermont
Boehm, Richard G.   SW Texas
Boisvert, Jean-Jacques   Sherbrooke
Boland, John J.   SIU-Carbondale, Johns Hopkins
Bone, Robert M.   Saskatchewan
Bonine, Michael E.   Arizona
Bonn, Ferdinand   Sherbrooke
Boots, Barry N.   Wilfrid Laurier
Borchert, John R.   Minnesota
Bordessa, Ronald   York
Bordne, Erich F.   Kent State
Borowiecki, Barbara Z.   Wisconsin-Milwaukee
Boswell, Thomas D.   Miami
Boswell-Thomas, Jean-Claude   George Mason
Bourne, Larry S.   Toronto
Bovis, M. J.   British Columbia
Bowden, Kenneth L.   N. Illinois
Bowden, Martyn J.   Clark
Bowen, William A.   CSU, Northridge
Box, Elgene O.   Georgia
Boxer, Baruch   Rutgers
Boyce, David E.   Illinois
Bradbury, J. H.   McGill
Bradfield, J. William   Ohio State
Bradley, Raymond S.   Massachusetts
Brandes, Donald   SW Texas

Brazel, Anthony J. Arizona State
Bridges, Kent Hawaii
Brierley, J. S. Manitoba
Brinkman, Leonard W. Tennessee
Brinkmann, Waltraud A. R. Wisconsin-Madison
Britton, John N. H. Toronto
Brochu, Richard Sherbrooke
Brod, Raymond M. Illinois-Chicago
Brodsky, Harold Maryland
Brody, Jill Louisiana State
Brook, George A. Georgia
Brooke, Clarke H., Jr. Portland State
Brookes, Ian A. York
Brooks, William D. Indiana State
Broome, Frederick R. Maryland
Brophy, David SUNY-Buffalo
Brower, Sidney N. Maryland
Brown, Dwight A. Minnesota
Brown, Laurie Massachusetts
Brown, Lawrence A. Ohio State
Brown, Marilyn A. Illinois
Brown, Michael C. Alberta
Brown, R. C. Simon Fraser
Brown, Ralph C. North Dakota
Brown, Robert H. Wyoming
Brown, S. Earl Ohio State
Brown, W. J. Manitoba
Browning, Clyde E. UNC Chapel Hill
Brueckheimer, W. R. Florida State
Brunn, Stanley D. Kentucky
Brush, Grace S. Johns Hopkins
Brush, John E. Rutgers
Brush, Lucien Johns Hopkins
Bryan, Rorke Toronto
Bryant, Christopher R. Waterloo
Bryson, Reid Wisconsin-Madison
Buckler, William R. Bowling Green State
Budin, Morris SUNY-Binghamton
Buford, Joseph C. Bowling Green State
Bullamore, Henry W. SW Louisiana
Bullock, Ronald A. Waterloo
Bunce, Michael Toronto
Bunkse, Edmunds V. Delaware
Bunting, Brian T. McMaster
Bunting, Trudi Waterloo
Burghardt, Andrew F. McMaster
Burke, Terence Arizona
Burt, James E. Wisconsin-Madison
Burton, Ian Toronto
Bushong, Allen D. South Carolina
Bussing, Charles Kansas State
Butler, David R. Oklahoma State
Butler, Joseph H. SUNY-Binghamton
Butler, R. W. W. Ontario
Buttenfield, Barbara P. Santa Barbara
Buttimer, Anne Clark
Butzer, Karl W. Chicago
Byrne, Roger Berkeley
Byron, William CSU, Los Angeles

Cadwallader, Martin T. Wisconsin-Madison
Cady, John Johns Hopkins
Caine, T. Nelson Colorado
Caldwell, Harry H. Idaho
Calkins, Hugh SUNY-Buffalo
Calzonetti, Frank J. W. Virginia
Cameron, James A. York
Campbell, David Michigan State
Campbell, Ian A. Alberta
Campbell, Robert D. New Mexico
Campbell, Robert W. Indiana
Cannon, J. B. Queen's
Cantin, Adelord J. Indiana State
Capone, Donald L. Miami
Carey, George W. Rutgers
Carleton, Andrew M. Arizona State
Carlson, Alvar W. Bowling Green State
Carlson, Steven A. N. Michigan
Carney, George O. Oklahoma State
Carpenter, Clifton C. E. Tennessee
Carr, Gene Utah
Carson, Michael A. McGill
Carter, Douglas B. Illinois-Chicago
Carter, James R. Tennessee
Cartwright, D. G. W. Ontario
Caruso, Douglas Windsor
Casetti, Emilio Ohio State
Castillon, David SW Missouri State
Castner, H. W. Queen's
Castonguay, Jean Sherbrooke
Catau, John SW Missouri State
Catchpole, A. J. W. Manitoba
Caviedes, Cesar N. Florida
Cecil, R. G. W. Ontario
Chakravarti, Aninda Saskatchewan
Chang, Jen-hu Hawaii
Chang, Kang-tsung North Dakota
Chang, Kuei-sheng Washington
Chang, Sen-dou Hawaii
Chang, Stephen S. Bowling Green State
Changnon, Stanley Illinois

Chapman, J. D.   British Columbia
Chapman, Murray   Hawaii
Chapman, William H.   George Mason
Chardon, Roland E.   Louisiana State
Charlton, Robert B.   Alberta
Charnews, Mark S.   SW Louisiana
Chatterjee, Lata   Boston
Chaudhury, R.H.   Boston
Chaves, Antonio F.   Maryland
Cheek, William   SW Missouri State
Chestang, Ennis L.   E. Carolina
Chong, Richard D.   Utah
Choquette, Roch   Sherbrooke
Christensen, David E.   SIU-Carbondale
Christian, Charles M.   Maryland
Chubb, Michael   Michigan State
Chung, Roy   Northern Iowa
Church, M.   British Columbia
Church, Richard L.   Santa Barbara
Churchill, John R.   Portland State
Cichanski, Allen   E. Michigan
Cirrincione, Joseph   Maryland
Clark, Armin L.   Murray State
Clark, Gordon L.   Chicago
Clark, Pamela E.   Murray State
Clark, Robert E.   Northern Iowa
Clark, William A. V.   UCLA
Clarke, John   Carleton
Clay, James W.   UNC Charlotte
Clements, Donald W.   SIU-Edwardsville
Cleveland, John H.   Indiana State
Cobb, David A.   Illinois
Cobban, James L.   Ohio
Cochrane, G. Ross   Hawaii
Code, W. R.   W. Ontario
Coffin, Harry   CSU, Los Angeles
Cohen, Saul B.   Clark
Cohon, Jared   Johns Hopkins
Colakovic, Branko   Mankato State
Cole, Alan L.   N. Illinois
Cole, Chester F.   CSU, Fresno
Cole, David B.   N. Colorado
Collins, Basil A.   Toledo
Collins, Charles O.   N. Colorado
Collins, Janet R.   W. Washington
Collins, William   CSU, Chico
Colombini, Victor   Ohio State
Colombo, Albert A.   San Diego State
Comeaux, Malcolm L.   Arizona State
Concord, Clare Stapleton   Wisconsin-Madison
Conkling, Edgar C.   SUNY-Buffalo
Conner, Doral Glen   W. Kentucky
Conway, Dennis   Indiana
Conzen, Michael P.   Chicago
Cook, Earl   Texas A&M
Cooper, Karyn G.   Memorial
Copley, Richard   British Columbia
Corbet, John H.   Memphis State
Corcoran, William   SW Missouri State
Cordes, Lawrence D.   Calgary
Corey, Kenneth E.   Maryland
Corsi, Thomas M.   Maryland
Costa, Frank J.   Akron
Costa, John E.   Denver
Couclelis, Helen   Santa Barbara
Coulson, Michael R. C.   Calgary
Court, Arnold   CSU, Northridge
Courtney, Dale E.   Portland State
Cowen, David J.   South Carolina
Cox, Carleton W.   George Mason
Cox, Kevin R.   Ohio State
Cragg, Barbara   Montana
Craig, Alan   Florida Atlantic
Crampton, C. B.   Simon Fraser
Crawford, Nicholas C.   W. Kentucky
Crawford, Paul V.   Bowling Green State
Crawford, Roger J.   San Francisco State
Crist, Raymond E.   Florida
Critchfield, Howard J.   W. Washington
Croft, Jerry D.   Oklahoma State
Crosby, Alfred W., Jr.   Texas
Crosby, John A.   CSU, Fresno
Cross, Clark I.   Florida
Cross, Ralph D.   S. Mississippi
Crowley, John M.   Montana
Crush, J.   Queen's
Cuff, David J.   Temple
Cullen, Bradley T.   New Mexico
Cullingworth, J. Barry   Toronto
Cunningham, F. F.   Simon Fraser
Currey, Donald R.   Utah
Curry, Leslie   Toronto
Curtis, James R.   Miami
Cutler, Irving   Chicago State
Cutshall, Alden S.   Illinois-Chicago
Cutter, Susan Caris   Rutgers
Cybriwsky, Roman A.   Temple

Dacey, Michael F.   Northwestern
Dagodag, William Tim   CSU, Northridge
Dahlberg, Richard E.   N. Illinois

Dahmann, Donald	George Washington
Dahms, Fredric A.	Guelph
Dale, Edmund H.	Regina
Dando, William A.	North Dakota
Darden, Joe T.	Michigan State
Dart, John O.	Portland State
da Silva, Armando	Towson State
Davidson, William V.	Louisiana State
Davidson-Arnott, Robin G.	Guelph
Davies, Christopher S.	Texas
Davies, John A.	McMaster
Davies, Wayne K. D.	Calgary
Davis, Anthony M.	Toronto
Davis, Frank	Santa Barbara
Davis, J. Tait	York
Davis, James L.	W. Kentucky
Davis, John C.	Kansas
Day, Frederick	E. Carolina
Day, J. C.	Simon Fraser
Day, Michael	Wisconsin-Milwaukee
Day, Richard L.	Idaho
Dean, William G.	Toronto
Dear, Michael J.	McMaster
Dearden, Philip	Victoria
deBlij, Harm J.	Miami
Decker, Bryce G.	Hawaii
Decker, Wayne L.	Missouri-Columbia
DeHon, René A.	NE Louisiana
de Laubenfels, David J.	Syracuse
DeLucia, Alan A.	Idaho
DeMeo, V. James, Jr.	Illinois State
Demko, George J.	Ohio State
Denevan, William M.	Wisconsin-Madison
Denike, K.	British Columbia
Denney, Evan	Montana
Dent, Borden D.	Georgia State
Deshler, Walter W.	Maryland
DeVitis, Daniel P.	Shippensburg
DeVorsey, Louis	Georgia
Dewey, Kenneth F.	Nebraska-Lincoln
Dickason, David G.	W. Michigan
Dicken, Samuel N.	Oregon
Diem, Aubrey	Waterloo
Dienes, Leslie	Kansas
Dierickx, C. Wallace	NE Illinois
Dietz, John L.	N. Colorado
Diffenderfer, Norman R.	Towson State
Dilamarter, Ronald R.	W. Kentucky
DiLisio, James E.	Towson State
Dillman, C. Daniel	N. Illinois
Dillon, John	Towson State
Dingemans, Dennis J.	Davis
Dixon, John C.	Arkansas
Dobson, Michael W.	SUNY-Albany
Doeppers, Daniel F.	Wisconsin-Madison
Dohrs, Fred E.	Wayne State
Donahue, John J.	Montana
Donaldson, Alan C.	W. Virginia
Donatelli, Philip E.	Shippensburg
Doney, Hugh H.	NE Louisiana
Dooley, Mary T.	Mankato State
Doolittle, William E.	Texas
Dougherty, Percy H.	Kentucky
Doughty, Robin W.	Texas
Douglas, David	Ottawa
Douglas, Robert C.	Pennsylvania
Downs, Roger M.	Pennsylvania State
Dozier, Jeffrey C.	Santa Barbara
Drago, Frank	Georgia State
Draine, Edwin H.	Illinois-Chicago
Drake, J. John	McMaster
Draper, Dianne L.	Memorial
Drexler, Wallace W.	Shippensburg
Drummond, R. Norman	McGill
Dubois, Jean-Marie	Sherbrooke
Ducsik, Dennis W.	Clark
Dudycha, Douglas	Waterloo
Dueker, Kenneth J.	Portland State
Dufournaud, Christian	Waterloo
Dulgarian, Martin E.	Miami U.
Dunbar, Gary S.	UCLA
Duncan, J. S.	British Columbia
Dunkle, John R.	Florida
Dury, George H.	Wisconsin-Madison
Dutt, Ashok K.	Akron
Dutta, Prodip K.	Indiana State
Dworkin, Daniel M.	Clark
Dyckman, John	Johns Hopkins
Eagleman, Joe R.	Kansas
Earney, Fillmore C. F.	N. Michigan
Easterly, Ernest S. III	Louisiana State
Easton, Robert F.	NE Illinois
Eaton, David J.	Texas
Ebert, Charles H. V.	SUNY-Buffalo
Edelen, Walter T.	Toledo
Eder, Herbert M.	CSU, Hayward
Edgell, Michael C. R.	Victoria
Edwards, Clinton R.	Wisconsin-Milwaukee
Edwards, Jay D.	Louisiana State
Ehemann, Jane H.	Shippensburg
Ehrhardt, Dennis K.	SW Louisiana

Eichenlaub, Val L.   W. Michigan
Eidt, Robert C.   Wisconsin-Milwaukee
Eilers, H. Peter   CSU, Fullerton
Eliot Hurst, M. E.   Simon Fraser
Ellefsen, Richard A.   San José State
Elliott-Fisk, Deborah L.   Davis
Ellis, S. Lewis   Toledo
Elmes, Gregory A.   W. Virginia
Emery, Byron E.   Toledo
Emmi, Phillip C.   Utah
Enders, Michael J.   George Washington
Engelmann, George F.   Nebraska-Omaha
England, Bobby L.   NE Louisiana
England, John   Alberta
English, Paul Ward   Texas
Engstrom, Wayne N.   CSU, Fullerton
Entrikin, J. Nicholas   UCLA
Eoff, Kay M.   Florida
Epstein, Bart J.   Kent State
Erb, David K.   Waterloo
Erhart, Rainer R.   W. Michigan
Ericksen, Robert   Wisconsin-Milwaukee
Erickson, Frank A.   Kent State
Erickson, Kenneth A.   Colorado
Erickson, Rodney A.   Pennsylvania State
Ervin, Roger E.   CSU, Fresno
Esman, Marjorie R.   Louisiana State
Espenshade, Edward B.   Northwestern
Estes, John E.   Santa Barbara
Evans, Simon M.   Memorial
Evenden, L. J.   Simon Fraser
Ewing, Gordon   McGill
Exline, Christopher H.   Nevada Reno
Eyre, John D.   UNC Chapel Hill
Eyton, J. Ronald   Pennsylvania State

Fagerlin, Stanley   SW Missouri State
Fahey, Barry D.   Guelph
Fairbairn, Kenneth J.   Alberta
Farley, A. L.   British Columbia
Farmer, Geoffrey H.   Memorial
Farrell, Barbara E.   Carleton
Farrell, John P.   N. Michigan
Fast, Timothy   Clark
Fellmann, Jerome D.   Illinois
Fentem, Arlin D.   W. Illinois
Ferguson, Dean V.   SW Texas
Fernald, Edward A.   Florida State
Ferraro, Rocco A.   Toledo
Fesharaki, Fereidun   Hawaii

Field, Chris   Montana
Field, Neil C.   Toronto
Field, Richard T.   Delaware
Filion, P.   Queen's
Fincher, Ruth   McMaster
Finchum, George A.   E. Tennessee
Fink, L. Dee   Oklahoma
Firman, David   Towson State
Fisher, Albert L.   Utah
Fisher, Jack   Johns Hopkins
Fisher, James S.   Georgia
Fishman, Allan R.   San José State
Fite, Robert C.   Oklahoma State
FitzGibbon, John E.   Guelph
Fitzsimons, Dennis E.   New Mexico
Flannery, James J.   Wisconsin-Milwaukee
Fleming, Douglas K.   Washington
Florestano, Patricia S.   Maryland
Florin, John W.   UNC Chapel Hill
Flynn, Joseph E., Jr.   S. Mississippi
Fogarty, Thomas   Pennsylvania
Foggin, G. Thomas III   Montana
Fogle, David P.   Maryland
Fonaroff, L. Schuyler   Maryland
Fonseca, James W.   George Mason
Foote, Kenneth E.   Texas
Ford, Derek C.   McMaster
Ford, John J. Shippensburg
Ford, Kristina   Montana
Ford, Larry R.   San Diego State
Foresta, Ronald A.   Tennessee
Forrest, David   Memorial
Forward, Charles N   Victoria
Foster, Harold D.   Victoria
Foster, John   Illinois State
Foster, R. H.   Manitoba
Fotheringham, A. Stewart   Indiana
Found, William C.   York
Fowler, Gary L.   Illinois-Chicago
Fowler, Phillip M.   Wyoming
Fox, Michael F.   Carleton
Franckowiak, Eugene N.   Toledo
Frank, Ralph W.   Bowling Green State
Frank, Thomas D.   Illinois
Frazier, John W.   SUNY-Binghamton
Fredrich, Barbara E.   San Diego State
Freeman, Donald B.   York
French, Hugh   Ottawa
Frenkel, Robert E.   Oregon State
Frey, Glen R.   Bowling Green State
Frieswyk, Henry   Maryland
Frost, Melvin J.   Arizona State

Frye, Howard E.	Memphis State
Fryer, Donald W.	Hawaii
Fryman, James F.	Northern Iowa
Fuchs, Roland J.	Hawaii
Fujita, Masahisa	Pennsylvania
Fuller, Anthony M.	Guelph
Fuller, Gary A.	Hawaii
Fuller, John W.	Iowa
Fung, Ka Iu	Saskatchewan
Furuseth, Owen J.	UNC Charlotte

Gab, Orville	S. Dakota State
Gabler, Robert E.	W. Illinois
Gade, Daniel W.	Vermont
Gade, Ole	Appalachian State
Gagnon, Hugues	Ottawa
Gagnon, Robert	Sherbrooke
Gaines, John F.	CSU, Northridge
Gale, Stephen	Pennsylvania
Galloway, Jock H.	Toronto
Ganyard, David W.	W. Illinois
Gardner, James S.	Waterloo
Gares, Paul	Ohio U.
Garven, Grant	Johns Hopkins
Gassaway, Alexander R.	Portland State
Gauthier, Howard L.	Ohio State
Gavis, Jerome	Johns Hopkins
Geib, Margaret	Akron
Gellman, Aaron	Pennsylvania
Gentilcore, R. Louis	McMaster
Gerlach, Russel	SW Missouri State
Gersmehl, Philip J.	Minnesota
Gesler, Wilbert M.	UNC Chapel Hill
Getis, Arthur	Illinois
Geurts, Marie-Anne	Ottawa
Gibbons, Susan	Maryland
Gibson, E. M.	Simon Fraser
Gibson, Gail G.	UNC Charlotte
Gibson, James R.	York
Gibson, Lay James	Arizona
Gilbert, R.	Queen's
Gildea, Ray Y.	SW Texas
Gildersleeve, C. R.	Nebraska-Omaha
Gill, W. G.	Simon Fraser
Gilliam, John J.	Montana
Gilmartin, Patricia P.	Victoria
Ginsberg, Ralph	Pennsylvania
Ginsburg, Norton	Chicago
Giovinetto, Mario B.	Calgary
Glacken, Clarence J.	Berkeley
Gladfelter, Bruce G.	Illinois-Chicago
Glawe, Lloyd N.	NE Louisiana
Glick, Thomas E.	Boston
Glickman, Norman J.	Pennsylvania
Gober, Patricia	Arizona State
Goff, James F.	Mankato State
Goggins, Lathardus	Akron
Goheen, P. G.	Queen's
Gohstand, Robert	CSU, Northridge
Golant, Stephen M.	Florida
Golledge, Reginald G.	Santa Barbara
Gonzalez, Alfonso	Calgary
Goodchild, M. F.	W. Ontario
Goodman, James M.	Oklahoma
Goodman, Robert J.	Wayne State
Gordon, Burton L.	San Francisco State
Gordon, Jeffrey J.	Bowling Green State
Gordon, Marvin	George Washington
Gore, Dorothy J.	SIU-Edwardsville
Gosenfield, Norman	CSU, Los Angeles
Gossette, Franklin E.	Delaware
Gough, G. Patrick	Guelph
Gould, Peter R.	Pennsylvania State
Goward, Samuel N.	Maryland
Graf, William L.	Arizona State
Graff, Thomas O.	Arkansas
Graham, D. S.	W. Ontario
Granger, Orman	Berkeley
Gravenor, Conrad P.	Windsor
Green, Jerry E.	Miami U.
Green, M. B.	W. Ontario
Greenberg, Michael R.	Rutgers
Greenland, David E.	Colorado
Greenwood, Brian	Toronto
Greenwood, Ned H.	San Diego State
Greer, Charles E.	Indiana
Greer-Wootten, Bryn	York
Gregor, Howard F.	Davis
Gregory, Mark S.	Oklahoma State
Griffin, Donald W.	W. Illinois
Griffin, Ernst C.	San Diego State
Griffith, Daniel A.	SUNY-Buffalo
Grima, Angelo P.	Toronto
Grimes, Thomas P.	Ball State
Gritzner, Charles F.	S. Dakota State
Gritzner, Janet H.	S. Dakota State
Grivetti, Louis E.	Davis
Groop, Richard	Michigan State
Groves, Paul A.	Maryland
Gruntfest, Eve C.	Colorado
Guelke, Leonard T.	Waterloo
Guernsey, James L.	Indiana State

Guest, B. Ross   N. Illinois
Gunter, Charles   E. Tennessee
Gunton, T. I.   Simon Fraser
Gvosdetsky, Vasyl M.   Utah
Gwyn, Q.H.J.   Sherbrooke

Haack, Barry N.   Ball State
Haag, William G.   Louisiana State
Haddock, Kenneth   Towson State
Hadley, Richard F.   Denver
Hafkamp, W. A.   Boston
Hafner, James A.   Massachusetts
Hage, Keith D.   Alberta
Haglund, Donn K.   Wisconsin-Milwaukee
Haiman, Richard L.   CSU, Chico
Hale, Gerry A.   UCLA
Hall, Frederick L.   McMaster
Hall, Jerry A.   Wilfrid Laurier
Hall, Peter   Berkeley
Hall, Stephen A.   North Texas State
Hall, William B.   Idaho
Hamill, Louis   Calgary
Hamilton, Lawrence S.   Hawaii
Hammond, Edwin H.   Tennessee
Han, Sin-Fong   CSU, Los Angeles
Handcock, Gordon   Memorial
Hanham, Robert Q.   W. Virginia
Hanke, Steve   Johns Hopkins
Hankins, William W.   E. Carolina
Hannes, Gerald P.   CSU, Fullerton
Hannon, Bruce M.   Illinois
Hansen, Carl   Riverside
Hanson, Susan   Clark
Hardwick, Walter G.   British Columbia
Hare, F. Kenneth   Toronto
Harlin, John M.   Oklahoma
Harman, Jay R.   Michigan State
Harnapp, Vern R.   Akron
Harper, Robert A.   Maryland
Harper, Robert C.   Shippensburg
Harries, Keith D.   Oklahoma State
Harrington, John A., Jr.   Oklahoma
Harris, Chauncy D.   Chicago
Harris, R. C.   British Columbia
Harris, Stuart A.   Calgary
Harrison, James D.   SW Texas
Harrison, Peter   Ottawa
Hart, John Fraser   Minnesota
Hart, Richard   Illinois State
Hartgen, David T.   SUNY-Albany

Hartshorn, Joseph H.   Massachusetts
Hartshorn, Truman A.   Georgia State
Hartshorne, Richard   Wisconsin-Madison
Harvey, David   Johns Hopkins
Harvey, Milton E.   Kent State
Haupert, John S.   SUNY-Buffalo
Havlik, Spenser W.   Colorado
Hawkes, H. Bowman   Utah
Hawley, Arthur J.   UNC Chapel Hill
Hay, John E.   British Columbia
Hayden, Robert S.   George Mason
Haynes, Kingsley E.   Indiana
Hays, H. Donald   Alabama
Hayter, R.   Simon Fraser
Hayuk, Hlib S.   Towson State
Head, C. Grant   Wilfrid Laurier
Hecht, Alfred   Wilfrid Laurier
Hecht, Melvin E.   Arizona
Hecock, Richard D.   Oklahoma State
Hegen, Edmund E.   W. Kentucky
Hehr, John G.   Arkansas
Heiden, Noland R.   Indiana U. of Pa.
Heidenreich, Conrad E.   York
Heiman, Michael K.   Syracuse
Heintzelman, Oliver H.   Oregon State
Heiser, W. Wayne   SUNY-Albany
Helburn, Nicholas   Colorado
Helgren, David M.   Miami
Helin, Ronald A.   CSU, Fullerton
Heller, Charles F.   W. Michigan
Hellman, Allen D.   SW Texas
Henderson, David A.   CSU, Northridge
Henderson, Floyd M.   SUNY-Albany
Henkel, Ray   Arizona State
Henry, James A.   Florida
Henry, Norah F.   SUNY-Binghamton
Herman, Vera L.   Ohio State
Herold, Laurance C.   Denver
Herrem, Peter D.   Calgary
Hess, Charles F.   SIU-Edwardsville
Hewes, Leslie   Nebraska-Lincoln
Hewings, Geoffrey J. D.   Illinois
Hewitt, Kenneth   Wilfrid Laurier
Heyl, R. James   Georgia
Hickin, E. J.   Simon Fraser
Hickok, Floyd C.   North Dakota
Highsmith, Richard M., Jr.   Oregon State
Hill, A. David   Colorado
Hill, Alan R.   York
Hill, Miriam   Illinois State
Hill, Ronald D.   Hawaii
Hilliard, Sam B.   Louisiana State

Hills, Theo L.   McGill
Hiltner, John   Bowling Green State
Hitchcock, John R.   Toronto
Hobgood, Jay S.   Nebraska-Lincoln
Hodge, David C.   Washington
Hodgkins, Jordan A.   Kent State
Hodgson, M. John   Alberta
Hodler, Thomas W.   Georgia
Hoerauf, Eugene A.   W. Washington
Hoffman, George W.   Texas
Hoffman, Lawrence A.   Toledo
Hoffman, Wayne L.   W. Kentucky
Hoffpauir, Robert   CSU, Northridge
Hogan, Edward Patrick   S. Dakota State
Hohn, Michael E.   W. Virginia
Holcomb, Briavel   Rutgers
Hole, Francis D.   Wisconsin-Madison
Holleb, Doris   Chicago
Hollingsworth, John M.   Indiana
Holly, Brian P.   Kent State
Holmes J.   Queen's
Holmes, William M.   North Texas State
Holtgrieve, Donald G.   CSU, Hayward
Holz, Robert K.   Texas
Holzner, Lutz   Wisconsin-Milwaukee
Homenuck, H. Peter M.   York
Honey, Rex   Iowa
Honzatko, George J.   Wayne State
Hook, John C.   Indiana State
Hooson, David J. M.   Berkeley
Hordon, Robert M.   Rutgers
Hornbeck, David, Jr.   CSU, Northridge
Horowitz, Joel L.   Iowa
Horsfall, R. B.   Simon Fraser
Horsley, A. Doyne   SIU-Carbondale
Horst, Oscar H.   W. Michigan
Horton, Frank E.   Wisconsin-Milwaukee
Hoskins, Earl R.   Texas A&M
Hosse, H. A.   W. Ontario
Hough, Richard F.   San Francisco State
Howard, Robert B.   CSU, Northridge
Howarth, Philip J.   McMaster
Howe, George M.   E. Michigan
Howe, Robert C.   Indiana State
Howenstine, William L.   NE Illinois
Howes, David W.   E. Kentucky
Howland, Marie   Maryland
Howland, William G.   Vermont
Hoy, Don R.   Georgia
Hoy, Harry E.   Oklahoma
Hsu, Mei-Ling   Minnesota
Hsu, Shin-yi   SUNY-Binghamton
Hua, Chang-i   Boston
Huber, Thomas P.   Colorado
Hudson, John C.   Northwestern
Hudson, Tim W.   S. Mississippi
Huff, David L.   Texas
Huff, James O.   Illinois
Hughes, John D.   N. Michigan
Hugill, Peter J.   Texas A&M
Hultquist, John F.   Idaho
Hultquist, Nancy B.   Idaho
Hunker, Henry L.   Ohio State
Hunter, John M.   Michigan State
Hutchinson, Charles F.   Arizona
Hutchinson, I.   Simon Fraser
Huttlinger, Frank D.   Alabama
Hyma, B.   Waterloo

Imperatore, William   Appalachian State
Ingalls, Gerald L.   UNC Charlotte
Innes, Frank C.   Windsor
Ironside, R. Geoffrey   Alberta
Irving, Robert M.   Waterloo
Irwin, Daniel   SIU-Carbondale
Isaac, Ronald H.   Ohio
Isard, Walter   Pennsylvania
Isserman, Andrew M.   Iowa
Ives, Jack D.   Colorado
Ives, Sallie M.   UNC Charlotte

Jaakson, Reiner   Toronto
Jackson, Edgar L.   Alberta
Jackson, Philip L.   Oregon State
Jackson, W. A. Douglas   Washington
Jacobs, John   Windsor
Jacobson, Daniel   Michigan State
Jakle, John A.   Illinois
Jakubs, John F.   South Carolina
James, John W.   Nevada Reno
James, Preston E.   Syracuse
Janelle, D. G.   W. Ontario
Janes, Robert W.   Maryland
Janiskee, Robert L.   South Carolina
Jarvis, Richard S.   SUNY-Buffalo
Jaworski, Eugene   E. Michigan
Jenks, George F.   Kansas
Jensen, J. Granville   Oregon State
Jensen, John R.   South Carolina
Jensen, Robert G.   Syracuse

Jett, Stephen C. Davis
Johannessen, Carl L. Oregon
Johansen, Harley E. Idaho
Johnsen, Norman C. SIU-Edwardsville
Johnson, Charles J. Hawaii
Johnson, Claude Riverside
Johnson, Daniel M. Portland State
Johnson, David C. SW Louisiana
Johnson, Denis B. Alberta
Johnson, Donald L. Illinois
Johnson, Douglas L. Clark
Johnson, Elias SW Missouri State
Johnson, Eric S. Illinois State
Johnson, Gary E. S. Dakota State
Johnson, J. Peter, Jr. Carleton
Johnson, James UCLA
Johnson, Kirsten Clark
Johnson, Ladd L. CSU, Chico
Johnson, Lane J. Temple
Johnson, Morris E. Utah
Johnson, Peter Ottawa
Johnson, R. Waterloo
Johnson, Warren A. San Diego State
Johnson, William C. Kansas
Jones, David L. SIU-Carbondale
Jones, David R. W. Calgary
Jones, Emlyn Trevor Ball State
Jones, J. Richard Texas
Jopling, Alan V. Toronto
Jordan, Terry G. Texas
Joseph, Alun E. Guelph
Joyal, Alfred N. N. Michigan
Jumper, Sidney R. Tennessee
Justham, Stephen A. Ball State

Kahn, Alfred SIU-Edwardsville
Kakiuchi, George H. Washington
Kale, Steven R. Oregon State
Kalkstein, Laurence S. Delaware
Kamerling, David George Washington
Kane, Phillip S. CSU, Northridge
Kang, Darshan S. Montana
Karan, P. P. Kentucky
Karaska, Gerald J. Clark
Kariel, Herbert G. Calgary
Karinen, Arthur E. CSU, Chico
Kasperson, Roger E. Clark
Kates, Robert W. Clark
Kay, Jeanne Utah
Kay, Paul A. Utah
Kaye, B. Manitoba
Kayser, Edmond Ottawa
Kearney, Michael S. Maryland
Kearns, Kevin C. N. Colorado
Keddie, Philip D. Guelph
Keen, Elmer A. San Diego State
Kelley, Philip S. Mankato State
Kellman, Martin C. York
Kelly, Kenneth Guelph
Kemp, W. B. McGill
Kennamer, Lorrin G. Texas
Kent, Robert B. Akron
Kenyon, James B. Georgia
Kerr, Donald Toronto
Kershaw, G. Peter Alberta
Kershaw, Herbert Oklahoma State
Kersten, Earl W. Nevada Reno
Kesel, Richard H. Louisiana State
Kesik, Andrzej Waterloo
Ketteringham, W. J. CSU, Fullerton
Kiang, Ying-Cheng NE Illinois
Kiewiet de Jonge, E. J. C. San Diego State
Kim, Hyun-Sik Maryland
Kimber, Clarissa T. Texas A&M
Kimerling, A. Jon Oregon State
Kind, Thomas C. Murray State
King, James W. Utah
King, Leslie J. McMaster
King, R. H. W. Ontario
Kingsbury, Robert C. Indiana
Kirby, Andrew M. Colorado
Kircher, Harry B. SIU-Edwardsville
Kirchherr, Eugene C. W. Michigan
Kirchner, James Illinois State
Kirchner, John CSU, Los Angeles
Kirchoff, D. Michael Syracuse
Kirkeberg, Max C. San Francisco State
Kite, Steven W. Virginia
Klemas, Vytautas Delaware
Klingensmith, Robert D. Ohio State
Klink, John C. Miami U.
Klugman, Marie Rose Popp Iowa
Kniffen, Fred B. Louisiana State
Knight, C. Gregory Pennsylvania State
Knight, David B. Carleton
Knos, Duane F. Clark
Knox, James C. Wisconsin-Madison
Kodras, Janet E. Florida State
Koeln, Gregory T. Missouri-Columbia
Koelsch, William A. Clark
Koepke, Robert L. SIU-Edwardsville
Kohler, Fred E. W. Illinois

Kohn, Clyde F. Iowa
Koller, E. Frank CSU, Fresno
Kollmorgen, Walter M. Kansas
Kontrovitz, Mervin NE Louisiana
Kontuly, Thomas M. Boston, Utah
Kooser, Jaime C. Washington
Kopec, Richard J. UNC Chapel Hill
Kopplin, Bruce E. Nebraska-Lincoln
Kornhauser, David H. Hawaii
Koroscil, P. M. Simon Fraser
Kosinski, Leszek A. Alberta
Kostanick, Huey Louis UCLA
Kostbade, J. Trenton Missouri-Columbia
Kott, Richard George Washington
Kouba, Leonard J. N. Illinois
Kovacik, Charles F. South Carolina
Kowalchyk, John P. SUNY-Binghamton
Kracht, James B. Texas A&M
Kramer, Fritz L. Portland State
Kramer, Terrill J. Nevada Reno
Kratzmeier, Walter H. Towson State
Kreutzwiser, Reid D. Guelph
Kriesel, Karl M. NE Illinois
Kromm, David E. Kansas State
Krueger, Ralph R. Waterloo
Krumme, Günter Washington
Kubiak, Timothy J. E. Kentucky
Kuchler, A. William Kansas
Kulkarni, Gopal S. Indiana U. of Pa.
Kung, Hsiang-te Memphis State
Kunstmann, John W. Bowling Green State
Kureth, Elwood J. C. E. Michigan
Kurtz, V. E. SW Missouri State
Kus, James S. CSU, Fresno
Kutsche, Katherine L. N. Colorado

Lagarec, Daniel Ottawa
Lai, David C. Y. Victoria
Lai, Poh-Chin Maryland
Laidig, Kermit Shippensburg
Lake, Robert W. Rutgers
Lakshmanan, T. R. Boston
Lall, Amrit Windsor
Lam, Nina S-N. Ohio State
Lamb, Robert B. CSU, Northridge
Lampe, Fred A. SIU-Edwardsville
Lamme, Ary J. III Florida
Landing, James E. Illinois-Chicago
Landis, Glenn S. Dakota State
Langlois, André Ottawa
Lantis, David W. CSU, Chico
Larimore, Philip B. Louisiana State
Larkin, Robert P. Colorado
Larsen, Robert D. SW Texas
Larson, Albert J. Illinois-Chicago
Larson, Robert C Indiana State
Latham, James Florida Atlantic
Latz, Gil Portland State
Lauria, Mickey Iowa
Lauriol, Bernard Ottawa
Laustrup, Mark S. Nebraska-Omaha
LaValle, Placido Windsor
Lavin, Stephen J. Nebraska-Lincoln
Lawson, Merlin P. Nebraska-Lincoln
Laycock, Arleigh H. Alberta
Leahy, Edward P. E. Carolina
Leahy, Palmyra E. Carolina
Leatherman, Stephen P. Maryland
LeDrew, Ellsworth Waterloo
Lee, Chung-Myun Utah
Lee, David Florida Atlantic
Lee, Mary Ann Iowa
Lee, Robert E. CSU, Fresno
Lee, Tso-Hwa CSU, Fullerton
Lee, Yuk Colorado
Lehrer, Paul L. N. Colorado
Leighly, John B. Berkeley
Leinbach, Thomas R. Kentucky
Lemon, James T. Toronto
Lentnek, Barry SUNY-Buffalo
Levin, Melvin B. Maryland
Lewis, Donald W. Toledo
Lewis, George K. Boston
Lewis, John C. NE Louisiana
Lewis, John E. McGill
Lewis, Laurence A. Clark
Lewis, Lawrence T. W. Illinois
Lewis, Nancy D. Hawaii
Lewis, Peirce F. Pennsylvania State
Lewis, Richard T. Kent State
Lewis, Robert A. Columbia
Lewthwaite, Gordon R. CSU, Northridge
Ley, David F. British Columbia
Liaw, Kao-Lee McMaster
Lieber, Stanley R. SIU-Carbondale
Lier, John CSU, Hayward
Limbird, Arthur G. Calgary
Lin, Gong-Yuh CSU, Northridge
Lind, Aulis Vermont
Lindberg, James B. Iowa
Lindberg, Mark B. George Mason
Lineback, Neal G. Alabama

Lipsey, J. Michael Michigan State
Little, Richard S. W. Virginia
Liu, Juanita Hawaii
Liverman, Dianna Wisconsin-Madison
Lloyd, Howell C. Miami U.
Lloyd, Robert E. South Carolina
Lo, Miriam Kui Kiaw Mankato State
Lobb, C. Gary CSU, Northridge
Loeffler, M. John Colorado
Loeser, Cornelius J. N. Illinois
Logan, Byron E. Miami U.
Logan, Richard F. UCLA
Lonergan, Stephen C. McMaster
Long, Robert G. Tennessee
Longbrake, David B. Denver
Longwell, A. Richard W. Illinois
Lonsdale, Richard E. Nebraska-Lincoln
Lord, J. Dennis UNC Charlotte
Lossau, Carl S. SIU-Edwardsville
Lounsbury, John F. Arizona State
Louviere, Jordan J. Iowa
Loveland, Thomas R. South Dakota State
Lovell, W. G. Queen's
Lovingood, Paul E. South Carolina
Lowe, John George Washington
Lowry, Mark II W. Kentucky
Loy, William G. Oregon
Lozowski, Edward P. Alberta
Lu, Jonathan J. Northern Iowa
Lucas, Robert C. Montana
Luckman, B. H. W. Ontario
Ludwig, Gail S. Missouri-Columbia
Luebke, F. C. Nebraska-Lincoln
Lukermann, Fred E. Minnesota
Lulla, Kamlesh P. Indiana State
Luman, Donald E. N. Illinois
Lundgren, Jan McGill
Lusch, David Michigan State
Luten, Daniel B. Berkeley
Lycan, D. R. Portland State
Lydolph, Paul E. Wisconsin-Milwaukee
Lyon, Edward E. Ball State

Ma, Laurence J. C. Akron
MacDougall, E. Bruce Massachusetts
MacEachren, Alan M. Colorado
MacKay, David B. Indiana
Mackay, J. Ross British Columbia
Mackenzie, S. Queen's
MacKinnon, Ross D. SUNY-Buffalo
MacMahan, Horace A., Jr. E. Michigan
MacPherson, A. Simon Fraser
Macpherson, Alan G. Memorial
Macpherson, Joyce Brown Memorial
Madden, Janice F. Pennsylvania
Maechling, Philip Montana
Mage, Julius A. Guelph
Mahaney, William C. York
Maher, Harmon D., Jr. Nebraska-Omaha
Major, David C. Clark
Makuch, Stanley M. Toronto
Malanson, George P. Oklahoma State
Malecki, Edward J. Florida
Mancell, Robert B. E. Michigan
Manners, Ian R. Texas
Mannion, John J. Memorial
Manson, Gary A. Michigan State
Mantei, Erwin SW Missouri State
Marando, Vincent Maryland
Marasciulo, Edward George Washington
Marble, Duane F. SUNY-Buffalo
Marchioni, Michael P. E. Tennessee
Marcus, Melvin G. Arizona State
Marcus, Robert B. Florida
Maresh, Thomas J. Oregon State
Marionneaux, Ronald L. E. Kentucky
Mark, David M. SUNY-Buffalo
Markham, Charles G. CSU, Fresno
Marlow, Loran D. SIU-Edwardsville
Marotz, Glen A. Kansas
Marr, Paul D. SUNY-Albany
Marriott, Robert Towson State
Marshall, John U. York
Martin, Charles E. Ball State
Martin, Curtis Towson State
Martin, Gene E. CSU, Chico
Martin, Walter E. UNC Charlotte
Martinko, Edward A. Kansas
Martinson, Tom L. Ball State
Martis, Kenneth C. W. Virginia
Marts, Marion E. Washington
Massam, Bryan H. York
Mastran, Shelley George Washington
Mather, E. Cotton Minnesota
Mather, John R. Delaware
Matley, Ian M. Michigan State
Matson, John T. Memphis State
Matthai, James P. Murray State
Matthews, B. Waterloo
Matthews, O. Paul Idaho
Mattingly, Paul F. Illinois State
Matzke, Gordon E. Oregon State

Mausel, Paul W.	Indiana State
Maxfield, Donald W.	N. Illinois
Maxfield, O. Orland	Arkansas
Maxwell, Gayle	Oklahoma State
May, Joseph A.	Toronto
Mayer, Harold M.	Wisconsin-Milwaukee
Mayer, Jonathan D.	Washington
Mayfield, Robert C.	Boston
Mazzucchelli, Vincent	CSU, Los Angeles
McArthur, David S.	San Diego State
McBoyle, Geoffrey R.	Waterloo
McCall, Ronald M.	Shippensburg
McCann, S. Brian	McMaster
McCarty, Harold H.	Iowa
McCaughey, J. H.	Queen's
McCleary, George F., Jr.	Kansas
McClennan, Eliza	Boston
McColl, Robert W.	Kansas
McConnell, Harold	Florida State
McConnell, John G.	Saskatchewan
McConnell, James E.	SUNY-Buffalo
McCoy, Roger M.	Utah
McCoy, William D.	Massachusetts
McCune, Shannon	Florida
McDaniel, R.	W. Ontario
McDonald, James R.	E. Michigan
McDowell, Patricia F.	Oregon
McGee, T. G.	British Columbia
McGrath, G.	Queen's
McGregor, John R.	Indiana State
McGregor, Kent M.	North Texas State
McIlwraith, Thomas F.	Toronto
McInnis, Donald	SW Missouri State
McIntire, Elliot G.	CSU, Northridge
McIntire, William G.	Louisiana State
McIntosh, C. Barron	Nebraska-Lincoln
McIntyre, Michael P.	San Jose State
McKay, Ian A.	Wilfrid Laurier
McKee, Jesse O.	S. Mississippi
McKim, Wayne L.	Towson State
McKnight, Tom L.	UCLA
McLafferty, Sara L.	Columbia
McLellan, Alexander G.	Waterloo
McLennan, Marshall S.	E. Michigan
McMaster, Robert	UCLA
McMurry, John H.	Wilfrid Laurier
McNee, Robert B.	Cincinnati
McNulty, Michael L.	Iowa
McPherson, Harold J.	Alberta
McQueen, Linda	Louisiana State
McQuillan, Aidan	Toronto
McRae, Stephen	Riverside
McTaggart, W. Donald	Arizona State
Meade, Melinda S.	UNC Chapel Hill
Mealor, W. Theodore, Jr.	Memphis State
Mednis, Roberts J.	Memorial
Meeks, Harold A.	Vermont
Meentemeyer, Vernon G.	Georgia
Mehretu, Assefa	Michigan State
Meierding, Thomas C.	Delaware
Meihoefer, Hans-J.	San Francisco State
Meinig, Donald W.	Syracuse
Mendelson, Robert E.	SIU-Edwardsville
Mercer, John	Syracuse
Meredith, Thomas	McGill
Merrens, H. Roy	York
Merrill, David A.	Illinois-Chicago
Merrill, Gordon C.	Carleton
Mersey, Janet E.	Sasketchewan
Mesinger, Jonathan S.	Cincinnati
Messenger, A. Steven	N. Illinois
Meuter, Ralph F.	CSU, Chico
Meyer, James T.	Chicago
Michaelsen, Joel	Santa Barbara
Micklewright, Malcolm A.	Victoria
Micklin, Philip P.	W. Michigan
Mieczkowski, Z.	Manitoba
Miernyk, William H.	W. Virginia
Mihalyi, Louis J.	CSU, Chico
Mikesell, Marvin W.	Chicago
Miles, Edward J.	Vermont
Millard, William	NE Illinois
Miller, E. Joan	Illinois State
Miller, E. Willard	Pennsylvania State
Miller, Halsey W.	SIU-Edwardsville
Miller, James	SW Missouri State
Miller, Maynard M.	Idaho
Miller, Roger P.	Minnesota
Miller, Ronald E.	Pennsylvania
Miller, Stephan W.	Louisiana State
Miller, Theodore K.	Indiana
Miller, Vincent P., Jr.	Indiana U. of Pa.
Milton, J. D.	Manitoba
Minghi, Julian V.	South Carolina
Minghine, Ernando	Wayne State
Mings, Robert C.	Arizona State
Minkel, Clarence W.	Tennessee
Minnich, Richard	Riverside
Mires, Ann Marie	Louisiana State
Miron, John	Toronto
Missavage, Joseph M.	SUNY-Binghamton
Mitchell, Bruce	Waterloo
Mitchell, James K.	Rutgers
Mitchell, Lisle S.	South Carolina

Mitchell, Richard A. SUNY-Buffalo
Mitchell, Robert D. Maryland
Mitchelson, Ronald L. Georgia
Moeglin, Thomas SW Missouri State
Moellering, Harold Ohio State
Mogolesko, Fred Boston
Momsen, Richard P., Jr. Calgary
Monahan, D. Carleton
Monahan, Robert L. W. Washington
Monk, Janice Arizona
Monmonier, Mark Stephen Syracuse
Monroe, Charles B. Akron
Monsebroten, Dale R. E. Kentucky
Monte, Judith A. Maryland
Montgomery, Richard C. CSU, Fresno
Montz, Burrell E. SUNY-Binghamton
Moodie, D. W. Manitoba
Mookherjee, Debnath W. Washington
Moore, Conrad T. W. Kentucky
Moore, E. G. Queen's
Moore, T. R. McGill
Moore, Tyrel G. UNC Charlotte
Morain, Stanley A. New Mexico
Morgan, Donald L. CSU, Fresno
Morgan, Joseph R. Hawaii
Moriarty, Barry M. UNC Chapel Hill
Morin, Denis Sherbrooke
Morley, C. David York
Morrill, Richard L. Washington
Morris, Scott E. Idaho
Morrison, Joel L. Wisconsin-Madison, Maryland
Morrow-Jones, Hazel A. Colorado
Mosley-Thompson, Ellen Ohio State
Moss, Michael R. Guelph
Moulton, Gary E. Nebraska-Lincoln
Mower, Roland D. North Dakota
Muckleston, Keith W. Oregon State
Muehrcke, Phillip C. Wisconsin-Madison
Muhr, John Chicago State
Muhs, Daniel R. Wisconsin-Madison
Mulamoottil, George Waterloo
Mulhauser, John Akron
Muller, Jean-Claude Alberta
Muller, Peter O. Miami
Muller, Robert A. Louisiana State
Müller-Wille, Christopher Texas A&M
Müller-Wille, L. McGill
Mulligan, Gordon F. Arizona
Muncaster, Russell W. Wilfrid Laurier
Munro, D. Scott Toronto
Munski, Douglas C. North Dakota
Muraco, William A. Toledo
Murdie, Robert A. York
Murphy, John C. Maryland
Murphy, Peter E. Victoria
Murphy, Raymond E. Clark
Murray, Malcolm A. Georgia State
Murton, Brian J. Hawaii
Myers, Theodore C. Colorado
Myles, Edward L. CSU, Chico
Mylroie, John E. Murray State

Nadeau, Roger Sherbrooke
Naim, Shamim Illinois State
Nanji, Razia Oklahoma State
Nash, A. Queen's
Nash, Peter H. Waterloo
Nash, Thomas L. Akron
Nasse, George N. CSU, Fresno
Nasuti, James Texas
Naughton, Patrick W. Hawaii
Naugle, Burl I. Murray State
Naujock, Eugene H. Toledo
Nazzaro, Andrew A. E. Michigan
Needham, Roger Ottawa
Neel, Earl M. Arkansas
Neithercut, Mark E. Alabama
Nellis, M. Duane Kansas State
Nelson, Howard J. UCLA
Nelson, J. G. Waterloo
Nelson, Joyce E. Louisiana State
Nelson, Robert Illinois State
Nelson, Ronald E. W. Illinois
Neuman, Robert W. Louisiana State
Newcomb, Robert M. CSU, Northridge
Newman, James L. Syracuse
Newton, Milton B. Louisiana State
Nicholson, N.L. W. Ontario
Nicholson, Sharon Clark
Nickling, William G. Guelph
Nicol, Keith S. Memorial
Niddrie, David L. Florida
Nieswand, George A. Rutgers
Nietschmann, Bernard Q. Berkeley
Nijim, Basheer K. Northern Iowa
Nishi, Midori CSU, Los Angeles
Nkemdirim, Lawrence C. Calgary
Noble, Allen G. Akron
Noble, William A. Missouri-Columbia
Nolan, Mary Lee Oregon State
Norcliffe, Glen B. York

Nordstrom, Karl F. Rutgers
Norris, Robert E. Oklahoma State
Norsworthy, Stanley F. CSU, Fresno
North, Margaret E. A. British Columbia
North, Robert N. British Columbia
Northam, Ray M. Oregon State
Norton, W. Manitoba
Nostrand, Richard L. Oklahoma
Nowak, W. Stan. Memorial
Nunley, Robert E. Kansas
Nunnally, Nelson R. UNC Charlotte
Nurnberger, Fred V. Michigan State
Nystrom, J. Warren Florida Atlantic

Oberlander, Theodore M. Berkeley
Obermeyer, Daniel A. Montana
O'Brien, Bob R. San Diego State
Odland, John Indiana
Officer, E. Roy Waterloo
Ogden, Albert E. SW Texas
Ogden, Lawrence E. Michigan
O'Huallachain, Breandan Northwestern
Ojala, Carl F. E. Michigan
Oke, T. R. British Columbia
O'Keefe, Philip Clark
O'Kelly, Morton E. Ohio State
Oliver, John E. Indiana State
Olmstead, Clarence W. Wisconsin-Madison
O'Loughlin, John V. Illinois
Olson, Judy M. Michigan State
Olson, Ralph E. Oklahoma
Olson, Sherry McGill
Olsson, Carl N. Florida
Olyphant, Greg A. Indiana
Onesti, Lawrence Indiana
Ongley, Edwin D. Saskatchewan
Opheim, Lee A. S. Dakota State
Orme, Antony R. UCLA
Ormrod, Richard K. N. Colorado
Orr, Douglas M., Jr. UNC Charlotte
Orser, Charles E., Jr. Louisiana State
Osborne, B. S. Queen's
Osleeb, Jeffrey P. Boston
Ostergren, Robert C. Wisconsin-Madison
Ostresh, Lawrence M. Wyoming
O'Sullivan, Patrick Florida State
Outen, Donald Towson State
Owen, Donald E. Indiana State
Owsley, Douglas W. Louisiana State

Packer, R. W. W. Ontario
Padick, Clement CSU, Los Angeles
Paganini, Louis A. Florida
Pagenhart, Thomas H. CSU, Hayward
Palm, Risa I. Colorado
Paludan, Charles T. Tennessee
Pannell, Clifton W. Georgia
Papageorgiou, George McMaster
Paquette, Romain Sherbrooke
Parella, Katherine A. Clark
Park, Siyoung W. Illinois
Parker, Albert J. Georgia
Parker, L. Mayland Arizona State
Parkhurst, David F. Indiana
Parry, John T. McGill
Parson, Helen E. Wilfrid Laurier
Parsons, James J. Berkeley
Pasqualetti, Martin J. Arizona State
Patrick, Larry L. Texas
Patten, George P. Ohio State
Patterson, James E. Illinois State
Patterson, Thomas H. Utah
Pattison, William D. Chicago
Patton, Clyde P. Oregon
Patton, Donald J. Florida State
Pauer, Gyula Kentucky
Paul, Alexander H. Regina
Pawling, John W. Temple
Payne, James E. Indiana U. of Pa.
Peake, Jeffrey S. Nebraska-Omaha
Pearson, Charles E. Louisiana State
Pease, James R. Oregon State
Pease, Robert Riverside
Pease, Steven R. San Francisco State
Pederson, Eldor George Washington
Pederson, Leland R. Arizona
Peet, J. Richard Clark
Pemberton, Dixie Ann Maryland
Pennington, Campbell W. Texas A&M
Peplies, Robert W. E. Tennessee
Perle, Eugene D. Wayne State
Peruzzi, Duilio San Jose State
Peters, Bernard C. N. Michigan
Petersen, Albert J. W. Kentucky
Peterson, Michael P. Nebraska-Omaha
Peterson, Raymond A. Ball State
Petras, Elizabeth M. Pennsylvania
Petterson, Janet H. E. Carolina
Petzold, Donald Maryland
Peuquet, Donna J. Santa Barbara
Philbrick, A. K. W. Ontario

Phillips, Deborah J.   Akron
Phillips, Phillip D.   Chicago
Phipps, Alan G.   Saskatchewan
Phipps, Michel   Ottawa
Pickard, Claude E.   W. Kentucky
Pickard, Jerome   George Washington
Picker, Robert D.   San Francisco State
Pickles, Andrew R.   Northwestern
Pierce, J. T.   Simon Fraser
Pigozzi, Bruce W.   Michigan State
Piianaia, Abraham   Hawaii
Piianaia, Ilima A.   Hawaii
Pillsbury, Richard   Georgia State
Pinther, Miklos   Columbia
Pipkin, John S.   SUNY-Albany
Pirie, Peter N. D.   Hawaii
Pitts, Forrest R.   Hawaii
Place, Richard F.   SUNY-Binghamton
Plane, David A.   Arizona
Platt, Rutherford H.   Massachusetts
Pleva, E. G.   W. Ontario
Poiker, T.K.   Simon Fraser
Poluga, Dennis A.   W. Virginia
Ponton, John R., Jr.   Wayne State
Poole, Donald H.   E. Tennessee
Pooler, James A.   Saskatchewan
Popenoe, Hugh L.   Florida
Poracsky, Joseph   Portland State
Porteous, J. Douglas   Victoria
Porter, Philip W.   Minnesota
Poulin, Andre   Sherbrooke
Pouliot, Marcel   Sherbrooke
Poulsen, Thomas M.   Portland State
Powell, Douglas R.   Berkeley
Pred, Allan R.   Berkeley
Preston, Richard E.   Waterloo
Preston, Valerie   Kansas
Price, Edward T.   Oregon
Price, Larry W.   Portland State
Priddle, George B.   Waterloo
Prosperi, David   Cincinnati
Provencher, Léo   Sherbrooke
Prowse, Colin W.   SIU-Carbondale
Pryde, Philip R.   San Diego State
Psuty, Norbert P.   Rutgers
Pulsipher, Lydia Mihelic   Tennessee
Purvis, John C.   South Carolina
Puzo, Bill   CSU, Fullerton
Pyle, Gerald F.   UNC Charlotte
Pyle, Lizbeth Ann   Kentucky
Pyrch, John   Portland State

Quandt, Eldor C.   W. Michigan
Quastler, Imre E.   San Diego State
Quillen, Dennis E.   E. Kentucky
Quinn, Mary-Louise   Nebraska-Lincoln
Qutub, Musa   NE Illinois

Rabiega, William A.   Portland State
Radell, David   CSU, Los Angeles
Radford, John P.   York
Radke, John   Wilfrid Laurier
Radok, Uwe   Colorado
Rafferty, Milton   SW Missouri State
Rains, R. Bruce   Alberta
Raitz, Karl B.   Kentucky
Rajagopal, R.   Iowa
Ralston, Bruce A.   Tennessee
Ramenofsky, Ann Felice   Louisiana State
Ramseier, R. O.   Carleton
Randolph, James C.   Indiana
Raney, Franklin C.   W. Washington
Raphael, C. Nicholas   E. Michigan
Ratick, Samuel J.   Boston
Rau, Herbert L., Jr.   Chicago State
Rauch, Henry W.   W. Virginia
Raup, Hallock F.   Kent State
Raup, Henry A.   W. Michigan
Rawson, Paul L.   NE Louisiana
Ray, D. Michael   Carleton
Rayner, John N.   Ohio State
Reed, Robert R.   Berkeley
Reeds, Lloyd G.   McMaster
Rees, John   CSU, Los Angeles
Rees, John   Syracuse
Rees, Peter W.   Delaware
Rees, Ronald   Saskatchewan
Reeves, Richard W.   Arizona
Regulska, Joanna   Rutgers
Rehder, John B.   Tennessee
Reider, Richard G.   Wyoming
Reilly, Timothy F.   SW Louisiana
Reiman, Robert E.   Appalachian State
Reinelt, Erhard R.   Alberta
Reiner, Thomas A.   Pennsylvania
Reitan, Clayton H.   N. Illinois
Reith, Gertrude M.   CSU, Fullerton
Relph, Edward C.   Toronto
Rengert, George F.   Temple
Rense, William C.   Shippensburg
Renwick, William H.   Rutgers

Retallick, Harold J.   Nebraska-Omaha
ReVelle, Charles   Johns Hopkins
Rex, Arthur B.   Appalachian State
Reynolds, David R.   Iowa
Rheault, Michel   Sherbrooke
Rheumer, G. A.   Simon Fraser
Rice, John G.   Minnesota
Richards, J. Howard   Saskatchewan
Richardson, Miles E.   Louisiana State
Richetto, Jeffrey P.   Alabama
Ridd, Merrill K.   Utah
Riddell, J. B.   Queen's
Riebsame, William E.   Wyoming
Rieck, Richard L.   W. Illinois
Rinier, James A.   Kent State
Roberge, Roger   Ottawa
Roberts, A.C.B.   Simon Fraser
Roberts, Larry D.   S. Dakota State
Roberts, Leonidas H.   Florida
Roberts, M. C.   Simon Fraser
Roberts, Rebecca S.   Oklahoma
Robinson, Arthur H.   Wisconsin-Madison
Robinson, David J.   Syracuse
Robinson, J. Lewis   British Columbia
Robinson, John B.   Waterloo
Robinson, Peter J.   UNC Chapel Hill
Roder, Wolf   Cincinnati
Rodgers, Allan   Pennsylvania State
Roepke, Howard G.   Illinois
Rogers, Andrei   Colorado
Rogers, Garry F.   Columbia
Rogers, Jeffery C.   Ohio State
Rogerson, Peter A.   Northwestern
Rogerson, Robert J.   Memorial
Rogge, J. R.   Manitoba
Roine, Jarl   N. Michigan
Romanowski, J. I.   Manitoba
Romsa, Gerald   Windsor
Rooney, John F., Jr.   Oklahoma State
Roscoe, Donald   Mankato State
Rose, Adam Z.   W. Virginia
Rose, Gregory S.   Ohio State
Rose, Harold M.   Wisconsin-Milwaukee
Roseman, Curtis C.   Illinois
Rosenberg, Mark W.   Carleton
Rosenfeld, Charles L.   Oregon State
Rosenthal, Gerson M., Jr.   Chicago
Rosenvall, Lynn A.   Calgary
Ross, William M.   Victoria
Roth, Irvin   Chicago State
Roundy, Robert W.   Rutgers
Rouse, Wayne R.   McMaster
Roweis, Shoukry T.   Toronto
Rowles, Graham   W. Virginia
Rowles, Ruth Anderson   W. Virginia
Rowntree, Lester B.   San José State, SUNY-Binghamton
Rowntree, Rowan A.   Syracuse
Roy, Jean-Marie   Sherbrooke
Royer, Alain   Sherbrooke
Rubenstein, James M.   Miami U
Rudd, Robert D.   Denver
Rudzitis, Gundars   Idaho
Rugg, Dean S.   Nebraska-Lincoln
Ruggles, R. I.   Queen's
Rundquist, Donald C.   Nebraska-Lincoln
Rushton, Gerard   Iowa
Russell, Clifford S.   SIU-Carbondale
Russwurm, Lorne H.   Waterloo
Rutherford, G. K.   Queen's
Ryan, Carolyn J.   Temple
Ryan, K. Bruce   Cincinnati
Ryerson, Charles C.   Vermont

Saarinen, Thomas F.   Arizona
Sack, Robert D.   Wisconsin-Madison
Sagar, R. B.   Simon Fraser
Sahir, A. H.   Regina
St-Onge, Denis   Ottawa
Sale, Randall D.   Wisconsin-Madison
Salisbury, Neil E.   Oklahoma
Salter, Christopher L.   UCLA
Samuels, Marwyn S.   British Columbia
Samuelson, Maynard L.   S. Dakota State
Sanders, Ralph A.   Syracuse
Sanders, Rickie   Indiana
Sanderson, Marie   Windsor
Sandness, Roger K.   S. Dakota State
Sands, Gary J.   Wayne State
Sanger, Chesley W.   Memorial
Sargent, Charles S., Jr.   Arizona State
Sas, Anthony   South Carolina
Sauchyn, David J.   Regina
Sauer, Jonathan D.   UCLA
Saueressig, Yda   Delaware
Saunderson, Houston C.   Wilfrid Laurier
Sawatzky, H. L.   Manitoba
Sawyer, Stephen W.   Maryland
Scarlett, Maurice J.   Memorial
Schlichtmann, Hans G.   Regina
Schmidt, C. Gilbert   Colorado
Schmidt, Else T. A.   Illinois State

Schmudde, Theodore H. Tennessee
Schneider, Rita Maryland
Schoen, Meera Ball State
Schoolmaster, F. Andrew III North Texas State
Schroeder, Walter A. Missouri-Columbia
Schuenemeyer, John H. Delaware
Schul, Norman W. UNC Charlotte
Schultz, Ronald Florida Atlantic
Schwartzberg, Joseph E. Minnesota
Schwarz, David E. San Jose State
Schwarz, Harry E. Clark
Schwendeman, Joseph, Jr. E. Kentucky
Schwind, Paul J. Hawaii
Scott, Allen UCLA
Scott, Earl P. Minnesota
Scott, James W. W. Washington
Scott, Ralph C. Towson State
Scott, Steven L. N. Colorado
Scripter, Sam M. W. Idaho
Scull, C. Robert Shippensburg
Seaborne, Adrian A. Regina
Searight, Thomas Illinois State
Searl, Gary H. Oregon
Seawall, Frank CSU, Chico
Seifried, Neil R. M. Alberta
Selden, David George Washington
Seldin, Daniel Indiana
Self, Burl E., Jr. SW Missouri State
Self, Huber Kansas State
Selva, Roger M. Cincinnati
Semple, R. Keith Saskatchewan
Sewell, W. R. Derrick Victoria
Seyler, H. L. Kansas State
Shabad, Theodore Columbia
Sham, Chi Ho Boston
Shannon, Gary W. Florida, Kentucky
Shao, Qingyue Boston
Sharpe, Christopher Memorial
Sharpe, David M. SIU-Carbondale
Shaudys, Vincent K. CSU, Hayward
Shaw, J. Queen's
Shea, Philip E. Carolina
Shelley, Fred M. Oklahoma
Shelton, Marlyn L. Davis
Sheppard, Eric S. Minnesota
Sherman, John C. Washington
Sheskin, Ira M. Miami
Shirey, Ruth I. Indiana U. of Pa.
Shirk, William R. Shippensburg
Shortridge, James Kansas
Showalter, Gerald R. Ball State
Shrestha, Mohan N. Bowling Green State
Shroder, John F., Jr. Nebraska-Omaha, Lincoln
Shuman, Stanley B. Illinois State
Sibert, John George Washington
Siddall, William R. Kansas State
Siddiqi, Akhtar H. Indiana State
Siddiqi, T. A. Hawaii
Siemens, Alfred H. British Columbia
Silberfein, Marilyn Temple
Silvernail, Richard G. South Carolina
Simkins, Paul D. Pennsylvania State
Simmons, James W. Toronto
Simonett, David S. Santa Barbara
Simoons, Frederick J. Davis
Simpson, Jefferson L. UNC Charlotte
Simpson-Housley, Paul Regina
Sims, John H. SIU-Carbondale
Sinclair, Robert Wayne State
Sitwell, O. F. George Alberta
Skaggs, Richard H. Minnesota
Slack, J. Andrew Ball State
Slaymaker, H. O. British Columbia
Slocum, Charlotte Clark
Slocum, Terry A. Kansas
Slorp, Lee H. Miami U.
Slusser, William F. CSU, Fresno
Smart, C. Christopher Saskatchewan
Smerk, George M. Indiana
Smil, V. Manitoba
Smit, Barry E. Guelph
Smith, Bruce W. Bowling Green State
Smith, Charles Leroy Texas A&M
Smith, Christopher J. SUNY-Albany
Smith, David A. SUNY-Buffalo
Smith, Derald G. Calgary
Smith, Everett G. Oregon
Smith, G. C. Manitoba
Smith, Graham Wilfrid Laurier
Smith, Kirk R. Hawaii
Smith, Michael W. Carleton
Smith, Neil Columbia
Smith, Nigel Florida
Smith, Paul D. UNC Charlotte
Smith, Peter J. Alberta
Smith, R. H. T. British Columbia
Smith, Raymond C. Santa Barbara
Smith, Rebecca Massachusetts
Smith, Richard G. W. Washington
Smith, Richard M. Arkansas
Smith, Richard V. Miami U.
Smith, S. Ivan Alberta

Smith, S. L.	Waterloo
Smith, Susan J.	UCLA
Smith, Terence R.	Santa Barbara
Smith, Thomas R.	Kansas
Smith, Tony E.	Pennsylvania
Smith, W. Randy	Ohio State
Snead, Rodman E.	New Mexico
Sobol, John A.	Memphis State
Solomon, Barry	W. Virginia
Solzman, David M.	Illinois-Chicago
Sommers, Lawrence M.	Michigan State
Sonnenfeld, Joseph	Texas A&M
Sööt, Siim	Illinois-Chicago
Sopher, David E.	Syracuse
Sorenson, Curtis J.	Kansas
South, Robert B.	Cincinnati
Southworth, Frank	Illinois
Spaeth, Hans-Joachim	Oklahoma
Spelt, Jacob	Toronto
Spence, Edward S.	York
Spinelli, Joseph G.	Bowling Green State
Squires, Roderick H.	Minnesota
Srivastava, Harishankar	Ottawa
Stadler, Stephen J.	Oklahoma State
Stafford, Howard A.	Cincinnati
Stager, J. K.	British Columbia
Stahle, David W.	Arkansas
Stallings, Emmett F.	SW Louisiana
Stallman, Claudia E.	SUNY-Binghamton
Stanek, Oleg	Sherbrooke
Stanislawski, Dan	Arizona
Stankey, George H.	Montana
Stanley, William R.	South Carolina
Staveley, Michael	Memorial
Staver, Allen	N. Illinois
Stayert, Paul R.	Florida
Stebelsky, Ihor	Windsor
Steed, Guy	Ottawa
Steila, Donald	UNC Charlotte
Steiner, Catherine M.	Ohio
Steinke, Theodore R.	South Carolina
Stene, L. P.	Manitoba
Stephens, John D.	UCLA
Stephenson, Richard A.	E. Carolina
Sterling, Henry S.	Wisconsin-Madison
Sternberg, Hilgard O'Reilly	Berkeley
Stetzer, Frank C.	Ohio State
Stevens, Richard E.	Colorado
Stevenson, Marshall L.	Towson State
Steward, Harry	Clark, Hawaii
Stewart, Norman R.	Wisconsin-Milwaukee
Steyn, D. G.	British Columbia
Stillwell, H. Daniel	Appalachian State
Stine, James H.	Oklahoma State
Stock, R.	Queen's
Stoddard, Robert H.	Nebraska-Lincoln
Stolle, Hans J.	W. Michigan
Stoltman, Joseph P.	W. Michigan
Stone, Alan T.	Johns Hopkins
Stone, Clarence M.	Maryland
Stone, Kirk H.	Georgia
Stoops, George	Mankato State
Storey, Keith J.	Memorial
Stout, Chester T.	E. Tennessee
Stoveken, Ruth	Wisconsin-Milwaukee
Stover, Stephen L.	Kansas State
Stow, Douglas A.	San Diego State
Straley, Adrian	Alabama
Strathman, James G.	Portland State
Street, John M.	Hawaii
Strohmeyer, Donald	SIU-Edwardsville
Stuart, Alfred W.	UNC Charlotte
Stuart, Merrill M.	CSU, Fresno
Stump, Roger W.	SUNY-Albany
Stueber, Alan M.	SIU-Edwardsville
Stutz, Frederick P.	San Diego State
Subins, Gunars	Wilfrid Laurier
Sublett, Michael D.	Illinois State
Suckling, Philip W.	Georgia
Sullivan, Michael E.	Ball State
Summers, William F.	Memorial
Sutherland, Stephen M.	Oklahoma
Sutton, Imre	CSU, Fullerton
Swann, Michael M.	Nebraska-Lincoln
Swartz, Robert D.	Wayne State
Swenson, Alan L.	Indiana State
Swenson, Russell G.	W. Illinois
Taaffe, Edward J.	Ohio State
Taaffe, Robert N.	Indiana
Takizawa, Bill H.	San José State
Tally, Taz	UNC Charlotte
Tamarin, Patricia	Alabama
Tan, Kok-Chiang	Guelph
Tata, Robert	Florida Atlantic
Taube, Sten A.	N. Michigan
Taylor, A. M.	Queen's
Taylor, D. R. F.	Carleton
Taylor, Gordon D.	Carleton
Taylor, H. W.	W. Ontario
Taylor, S. Martin	McMaster
Tepper, Leonard P.	Indiana U. of Pa.

Terich, Thomas A.   W. Washington
Terjung, Werner H.   UCLA
Teshera, Robert W.   W. Washington
Thoman, Richard S.   CSU, Hayward
Thomas, Edwin H.   Illinois-Chicago
Thomas, Morgan D.   Washington
Thomas, Robert N.   Michigan State
Thomas, William L.   CSU, Hayward
Thompson, Bryan   Wayne State
Thompson, Derek   Maryland
Thompson, Gary L.   Oklahoma
Thompson, John   Illinois
Thompson, John H.   Syracuse
Thompson, John L.   Miami U.
Thompson, Kenneth   Davis
Thompson, Noble R.   SIU-Edwardsville
Thomson, Kenneth C.   SW Missouri State
Thorn, Colin E.   Illinois
Thornton, Charles A.   SIU-Edwardsville
Thrall, Grant   Florida
Thrower, Norman J. W.   UCLA
Thurston, David L.   Mankato State
Thyagarajan, Sambamurthy   SUNY-Albany
Tiedemann, Clifford E.   Illinois-Chicago
Timofeeff, Nicolay   SUNY-Binghamton
Ting, William S.   CSU, Los Angeles
Tinline, R. R.   Queen's
Tirtha, Ranjit   E. Michigan
Tiwari, R. C.   Manitoba
Tobin, Graham A.   Iowa
Tobler, Waldo R.   Santa Barbara
Todd, D.   Manitoba
Torrance, J. Kenneth   Carleton
Towle, Jerry C.   CSU, Fresno
Toy, Terrence J.   Denver
Trapasso, L. Michael   W. Kentucky
Traylor, Charles T.   Memphis State
Treichel, Georg   San Francisco State
Trenhaile, Alan   Windsor
Trewartha, Glenn T.   Wisconsin-Madison
Trimble, Stanley W.   UCLA
Trott, Charles E.   N. Illinois
Troughton, M. J.   W. Ontario
Trussell, Margaret   CSU, Chico
Trussler, Susan   Kentucky
Tuan, Yi-Fu   Wisconsin-Madison
Tuller, Stanton E.   Victoria
Tunbridge, John E.   Carleton
Turner, B. L. II   Clark
Turner, Daniel S.   E. Michigan
Turner, Eugene J.   CSU, Northridge
Tweedie, Steven W.   Oklahoma State

Ulack, Richard   Kentucky
Ulrich, Roger S.   Delaware
Urell, Joseph T.   Miami U.
Urquhart, Alvin W.   Oregon

Vale, Thomas R.   Wisconsin-Madison
Valenzuela, Carlos R.   Ball State
Vance, James E., Jr.   Berkeley
Vance, Jean   San Francisco State
Vandall, Paul   Windsor
van der Eyk, J. J.   Toronto
Vanderhill, Burke G.   Florida State
VanderMeer, Canute   Vermont
Vander Meer, Paul   CSU, Fresno
van Doorninck, Frederick, Jr.   Texas A&M
van Loon, Harry   Colorado
Vann, John H.   CSU, Hayward
Van Riper, Joseph E.   SUNY-Binghamton
Varady, David P.   Cincinnati
Vayda, Andrew P.   Rutgers
Veblen, Thomas T.   Colorado
Velikonja, Joseph   Washington
Vermeer, Donald E.   Louisiana State
Vernon, Manfred C.   W. Washington
Vicero, Ralph D.   CSU, Northridge
Vining, Daniel R.   Pennsylvania
Vining, James W.   W. Illinois
Visser, Sent   SW Texas
Vitek, John D.   Oklahoma State
Viterito, Arthur   George Washington
Viton, Philip A.   Pennsylvania
Vogel, Philip E.   Nebraska-Omaha
Vreeken, W. J.   Queen's
Vuicich, George   W. Michigan

Wacker, Peter O.   Rutgers
Wagner, P. L.   Simon Fraser
Walcott, Wayne A.   UNC Charlotte
Wales, Robert W.   S. Mississippi
Walker, David F.   Waterloo
Walker, Gerald E.   York
Walker, H. J.   Louisiana State
Walker, Richard A.   Berkeley
Walker, Wilma J.   E. Kentucky
Wall, Geoffrey   Waterloo
Wallace, A. Iain   Carleton
Wallach, Bret   Oklahoma
Walsh, Stephen J.   Oklahoma State

Walter, Bob J.	Ohio
Walter, Hartmut	UCLA
Walters, William D., Jr.	Illinois State
Walton, Grant F.	Rutgers
Wang, I-shou	CSU, Northridge
Ward, David	Wisconsin-Madison
Ward, Robert M.	E. Michigan
Warkentin, John	York
Warntz, W.	W. Ontario
Waterhouse, Alan	Toronto
Waters, Nigel M.	Calgary
Watts, Michael J.	Berkeley
Waylen, Peter	Saskatchewan
Wayne, William J.	Nebraska-Lincoln
Weaver, David C.	Alabama
Weaver, John C.	Wisconsin-Milwaukee
Webb, John W.	SUNY-Albany
Webb, Kempton E.	Columbia
Webber, Michael J.	McMaster
Weber, Charles E.	Indiana U. of Pa.
Weber, Neil V.	Murray State
Weigend, Guido G.	Arizona State
Weightman, Barbara A.	CSU, Fullerton
Weil, Connie H.	Minnesota
Weir, T. R.	Manitoba
Weirich, Frank	UCLA
Welch, Ronald	Windsor
Welch, Roy A.	Georgia
Wellar, Barry	Ottawa
Wendland, Wayne M.	Illinois
Wernstedt, F. L.	Pennsylvania State
Wesche, Rolf	Ottawa
Wescoat, James L., Jr.	Chicago
West, Robert C.	Louisiana State
Wester, Lyndon	Hawaii
Western, John C.	Temple
Westfall, John E.	San Francisco State
Westman, Walter E.	UCLA
Whaley, Peter W.	Murray State
Wheatley, Paul	Chicago
Whebell, C. F. J.	W. Ontario
Wheeler, David L.	Ball State
Wheeler, James O.	Georgia
Wheeler, Jesse H.	Missouri-Columbia
White, Andrew N.	Hawaii
White, Gilbert F.	Colorado
White, Kenneth L.	Texas A&M
White, Rodney R.	Toronto
White, Roger W.	Memorial
White, Stephen E.	Kansas State
White, Stephen J.	Nebraska-Omaha
Whitney, Herbert A.	Wilfrid Laurier
Whitney, Joseph B. R.	Toronto
Whyte, Anne V.	Toronto
Wiedel, Joseph W.	Maryland
Wightman, W. R.	W. Ontario
Wikkramatileke, Rudolph	Victoria
Wilcox, Jean E.	Montana
Wilhelm, Hubert G. H.	Ohio
Wilkie, Richard W.	Massachusetts
Wilkinson, Paul F.	York
Wilkinson, Thomas P.	Carleton
Williams, Anthony V.	Pennsylvania State
Williams, Barbara W.	Maryland
Williams, Donald L.	S. Mississippi
Williams, Jack	Michigan State
Williams, Jerry L.	New Mexico
Williams, Jerry R.	CSU, Chico
Williams, Lynden S.	Ohio
Williams, Peter J.	Carleton
Williams, T. H. Lee	Kansas
Willmott, Cort J.	Delaware
Wills, Bernt L.	North Dakota
Wilms, Douglas C.	E. Carolina
Wilner, Arthur	S. Dakota State
Wilson, Alan	Pennsylvania
Wilson, Andrew W.	Arizona
Wilson, J. W.	Simon Fraser
Wilson, Michael R.	Saskatchewan
Wilson, Paul B.	Montana
Wilson, Zaphon R.	Appalachian State
Winberry, John J.	South Carolina
Wingert, Everett A.	Hawaii
Winkler, Julie A.	Nebraska-Lincoln
Winsberg, Morton D.	Florida State
Winsor, Roger A.	Appalachian State
Winston, Barbara	NE Illinois
Winter, Robert E.	CSU, Hayward
Winters, Harold A.	Michigan State
Wise, Daniel	W. Illinois
Wiseman, Robert F.	Kansas
Wishart, David J.	Nebraska-Lincoln
Withington, W. A.	Kentucky
Wittick, Robert I.	Michigan State
Wixman, Ronald	Oregon
Wohlenberg, Ernest H.	Indiana
Woldenberg, Michael	SUNY-Buffalo
Wolf, Laurence G.	Cincinnati
Wolfe, Jacqueline S.	Guelph
Wolman, M. Gordon	Johns Hopkins
Wonders, William C.	Alberta
Wong, S. T.	Simon Fraser
Woo, Ming-Ko	McMaster
Wood, Clifford H.	Memorial

Wood, Colin J. B.   Victoria
Wood, Harold A.   McMaster
Wood, J. David   York
Wood, Joseph S.   Nebraska-Omaha
Wood, Perry S.   Mankato State
Woodruff, James F.   Georgia
Woods, Alan J.   Kent State
Woodward, David   Wisconsin-Madison
Wright, Paul   Riverside
Wright, Richard D.   San Diego State
Wu, Chong-Tong   Hawaii
Wubneh, Mulatu   E. Carolina
Wyatt, Robert L.   E. Tennessee
Wyckoff, John W.   North Dakota
Wynn, Graeme   British Columbia

Yahr, Charles C.   San Diego State
Yapa, Lakshman   Pennsylvania State
Yarbrough, Ronald E.   SIU-Edwardsville
Yarnal, Brenton M.   Northern Iowa
Yasso, Warren E.   Columbia
Yeates, M. H.   Queen's
Young, Bruce S.   Wilfrid Laurier
Young, Cyrus W.   Miami U.
Young, Robert A.   CSU, Fullerton
Young, William J.   Temple
Youngmann, Carl E.   Washington
Yoxall, William H.   Memorial
Yuretich, Richard F.   Massachusetts

Zacur, Maurice M.   Indiana U. of Pa.
Zdorkowski, R. Todd   Oklahoma State
Zelinsky, Wilbur   Pennsylvania State
Zeller, Richard E.   Florida State
Ziehr, Charles   E. Carolina
Zimmerman, A. L.   Montana
Zimmerman, Peter M.   Towson State
Zinn, Jeffrey   George Washington
Zobler, Leonard   Columbia
Zonn, Leo E.   Arizona State
Zucchetto, James   Pennsylvania
ZumBrunnen, Craig   Washington

Geographical Index

**Institutions that award doctoral degrees*

ALABAMA
University of Alabama, University ... 3
ARIZONA
* Arizona State University, Tempe ... 6
* University of Arizona, Tucson ... 8
ARKANSAS
University of Arkansas, Fayetteville ... 10
CALIFORNIA
California State University,
  Chico ... 17
  Fresno ... 19
  Fullerton ... 21
  Hayward ... 22
  Los Angeles ... 24
  Northridge ... 26
University of California,
  * Berkeley ... 27
  * Davis ... 30
  * Los Angeles ... 33
  * Riverside ... 36
  * Santa Barbara ... 37
San Diego State University ... 187
San Francisco State University ... 189
San José State University ... 190
COLORADO
* University of Colorado, Boulder ... 49
* University of Denver ... 56
* University of Northern Colorado, Greeley ... 155
DELAWARE
* University of Delaware, Newark ... 54
DISTRICT OF COLUMBIA
George Washington University ... 71
FLORIDA
Florida Atlantic University, Boca Raton ... 64
Florida State University, Tallahassee ... 65
* University of Florida, Gainesville ... 67
University of Miami, Coral Gables ... 124
GEORGIA
Georgia State University, Atlanta ... 73
* University of Georgia, Athens ... 74
HAWAII
* University of Hawaii, Honolulu ... 77
IDAHO
University of Idaho, Moscow ... 81
ILLINOIS
Chicago State University ... 40
Illinois State University, Normal ... 83
Northeastern Illinois University, Chicago ... 154
Northern Illinois University, DeKalb ... 157
* Northwestern University, Evanston ... 162
* Southern Illinois University, Carbondale ... 199
Southern Illinois University, Edwardsville ... 202
* University of Chicago ... 41
University of Illinois, Chicago ... 87
* University of Illinois, Urbana ... 85
Western Illinois University, Macomb ... 245
INDIANA
Ball State University, Muncie ... 11
* Indiana State University, Terre Haute ... 89
* Indiana University, Bloomington ... 91
IOWA
* The University of Iowa, Iowa City ... 95
University of Northern Iowa, Cedar Falls ... 159
KANSAS
Kansas State University, Manhattan ... 99
* University of Kansas, Lawrence ... 101

KENTUCKY
Eastern Kentucky University, Richmond 60
Murray State University 135
• University of Kentucky, Lexington 106
Western Kentucky University, Bowling Green 248
LOUISIANA
• Louisiana State University, Baton Rouge 109
Northeast Louisiana University, Monroe 152
University of Southwestern Louisiana, Lafayette 209
MARYLAND
• The Johns Hopkins University, Baltimore 97
Towson State University 232
• University of Maryland, College Park 113
MASSACHUSETTS
• Boston University 13
• Clark University, Worcester 46
University of Massachusetts, Amherst 119
MICHIGAN
Eastern Michigan University, Ypsilanti 61
• Michigan State University, East Lansing 126
Northern Michigan University, Marquette 160
Wayne State University, Detroit 241
Western Michigan University, Kalamazoo 250
MINNESOTA
Mankato State University 112
• University of Minnesota, Minneapolis 128
MISSISSIPPI
University of Southern Mississippi, Hattiesburg 204
MISSOURI
Southwest Missouri State University, Springfield 206
University of Missouri-Columbia 131
MONTANA
University of Montana, Missoula 133
NEBRASKA
• University of Nebraska, Lincoln 137
University of Nebraska at Omaha 139
NEVADA
University of Nevada Reno 141
NEW JERSEY
• Rutgers University, New Brunswick 184
NEW MEXICO
University of New Mexico, Albuquerque 143
NEW YORK
• Columbia University, New York 52
State University of New York
at Albany 210
at Binghamton 212
• at Buffalo, Amherst 215
• Syracuse University 218
NORTH CAROLINA
Appalachian State University, Boone 5
East Carolina University, Greenville 57
• University of North Carolina, Chapel Hill 144
University of North Carolina at Charlotte 147
NORTH DAKOTA
University of North Dakota, Grand Forks 149
OHIO
Bowling Green State University 15
• Kent State University 104
Miami University, Oxford 122
• The Ohio State University, Columbus 163
Ohio University, Athens 166
University of Akron 1
• University of Cincinnati 44
University of Toledo 230
OKLAHOMA
Oklahoma State University, Stillwater 168
• University of Oklahoma, Norman 170
OREGON
• Oregon State University, Corvallis 172
Portland State University 182
• University of Oregon, Eugene 174
PENNSYLVANIA
Indiana University of Pennsylvania 94
• The Pennsylvania State University, University Park 176

Shippensburg University 192
Temple University,
Philadelphia 222
• University of Pennsylvania,
Philadelphia 179
SOUTH CAROLINA
University of South Carolina,
Columbia 195
SOUTH DAKOTA
South Dakota State University,
Brookings 198
TENNESSEE
East Tennessee State University,
Johnson City 59
Memphis State University 120
• University of Tennessee,
Knoxville 224
TEXAS
North Texas State University,
Denton 151
Southwest Texas State University,
San Marcos 207
• Texas A&M University,
College Station 226
• University of Texas at Austin 228
UTAH
Brigham Young University,
Provo 17
• University of Utah,
Salt Lake City 234
VERMONT
University of Vermont,
Burlington 237
VIRGINIA
George Mason University,
Fairfax 70
WASHINGTON
• University of Washington,
Seattle 238
Western Washington University,
Bellingham 251
WEST VIRGINIA
West Virginia University,
Morgantown 243
WISCONSIN
• University of Wisconsin,
Madison 253
• University of Wisconsin-
Milwaukee 256
WYOMING
University of Wyoming,
Laramie 258

CANADA

ALBERTA
• University of Alberta,
Edmonton 261
• University of Calgary 267
BRITISH COLUMBIA
• University of British Columbia,
Vancouver 264
• Simon Fraser University,
Burnaby 295
• University of Victoria 302
MANITOBA
• The University of Manitoba,
Winnipeg 275
NEWFOUNDLAND
Memorial University of
Newfoundland, St John's 283
ONTARIO
• Carleton University, Ottawa 269
• McMaster University, Hamilton 280
• Queen's University, Kingston 287
University of Guelph 273
• University of Ottawa 285
• University of Toronto 299
• University of Waterloo 305
• University of Western Ontario,
London 308
Wilfrid Laurier University,
Waterloo 310
University of Windsor 312
• York University, Downsview 314
QUEBEC
• McGill University, Montreal 277
University of Sherbrooke 293
SASKATCHEWAN
University of Regina 290
• University of Saskatchewan,
Saskatoon 291

GRADUATE DEPARTMENTS OF GEOGRAPHY NOT LISTED IN THE *GUIDE*

- CALIFORNIA
  - California State College, Dominguez Hills
  - California State College, Stanislaus
  - • University of California, Irvine
- CONNECTICUT
  - Central Connecticut State College
  - Southern Connecticut State College
- FLORIDA
  - University of South Florida
- ILLINOIS
  - Roosevelt University
- MASSACHUSETTS
  - Boston State College
  - • Harvard University
- MINNESOTA
  - Bemidji State University
  - St. Cloud State University
- NEW JERSEY
  - Montclair State College
  - William Paterson College
- PENNSYLVANIA
  - California University
  - West Chester University
- RHODE ISLAND
  - University of Rhode Island
- TEXAS
  - East Texas State University
  - University of Texas at Dallas
- UTAH
  - Brigham Young University
- WEST VIRGINIA
  - Marshall University
- CANADA, ONTARIO
  - Trent University
- CANADA, QUEBEC
  - • Université Laval
  - • Université de Montreal